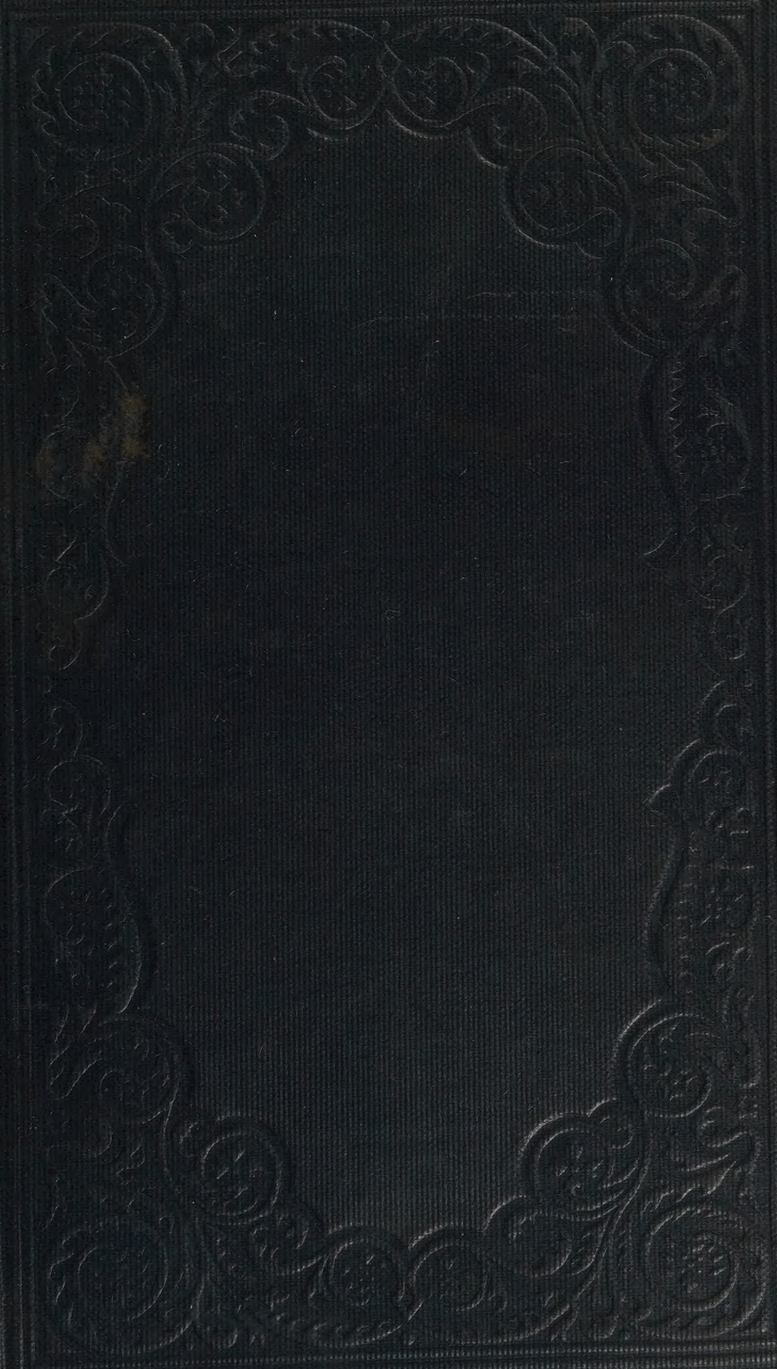

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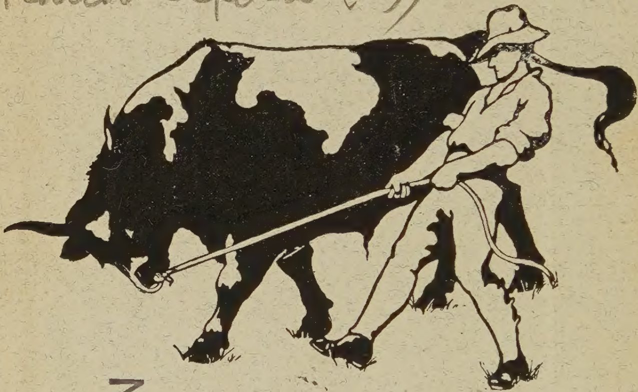

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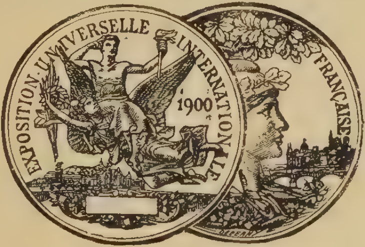

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Synopsis.

Abstracts and other Short Articles from the Medical Journals, showing the most important indications of Treatment, published by different writers during the half year.

ARRANGED ALPHABETICALLY.

General Medicine and Therapeutics.

ADDISON'S DISEASE AND ADRENAL THERAPY.

Dr. William H. Thomson said that, despite the fact that reports of the use of adrenal substance in Addison's disease had usually been unfavourable, he had two cases to report in which the benefit derived from this method of treatment had been most striking. All the other cases of Addison's disease except these two that have come under his observation have proved fatal in 20 months or less. The first successful case was a farmer who came under treatment four years ago. There was absolutely no doubt of the diagnosis of the disease, yet under the influence of adrenal extracts his symptoms abated, and he has continued to enjoy reasonably good health up to the present time. The second case is that of a theatrical manager who came under observation three years ago. He has been seen by some of the best consultants in America, and all are agreed that he is suffering from Addison's disease. In his case the symptoms have abated; especially the intense tiredness and disinclination to exertion have lessened, and he has been able to continue his occupation. He is at present abroad attending to his business. (Medical News, September 1, 1900.)

ANÆMIA, PERNICIOUS.

Hunter, in a series of papers in *The Lancet*, February, 1900, says that the hygiene of the mouth deserves the most scrupulous attention, and all teeth that show any signs of commencing cario-necrosis should be either treated, or removed. But the chief seat of the disease is invariably the stomach, where the first infection shows itself as a catarrh, followed later on by deeper seated changes, in the nature of gastritis and glandular atrophy. To remove, or combat this catarrh, washing out of the stomach has been suggested, and may be carried out, in some cases, with benefit, especially in the earlier stage of the disease. In general, however, the gastric conditions are of too deep-seated a character to be affected by mere local washing. Hunter had better results from the use of local antiseptics, and the one which in his hands proved most successful was salicylic acid; although there are other antiseptics of the same character which may possibly prove equally beneficial. He states that he has hardly ever failed to get some improvement from its use. In cases where the symptoms point to intestinal rather than gastric irritation, the use of intestinal antiseptics is recommended, such as salol, naphthol, and calomel. Where the symptoms are referred to the colon or rectum, these drugs may be supplemented by enemata containing salicylic acid. This local treatment should not replace, but should supplement the use of arsenic, the great value of this drug being now fully established. If once the infection gets firmly rooted in the mucosa, however, mere local antiseptic treatment, even when aided by the use of arsenic, may fail to arrest the disease permanently. The indication for treatment in such cases is to combat the action of the poison on the blood, after its absorption. To this end Hunter proposes, in the future, to make a sustained and systematic trial of serum treatment; but the exact nature of the serum he reserves for later investigations accurately to determine. (From Dr. A. D. Blackader's abstract in the Montreal Medical Journal, September, 1900.)

ANÆMIA, PERNICIOUS.

The following are from Dr. Frank Billing's general conclusions: Of the twenty cases, twelve were males, and eight females. The average age was 44 years, the youngest 24, the oldest 62. No exciting cause could be found in any case. There was no special relation to the use of alcohol, nervous shock, or overwork, or to previous disease, excepting, possibly, in the one case in which syphilitic gumma of the soft palate occurred. The symptoms were weakness (which was constant, and present in some degree even when the patient was at the top of the wave of improvement) and dyspnœa, and palpitation occurred at some time or other during the course of the disease in every patient. Gastro-intestinal disturbance of some kind, usually fermentative dyspepsia with constipation or diarrhœa, was the rule. A few cases showed a constant tendency to diarrhœa. The nervous symptoms were frequent, especially paræsthesias of the lower extremities, and headache, with dizziness, was common. Sleeplessness and restlessness occurred in the late stages of the fatal cases. The lemon-yellow tint was present in every case. In the great majority of the cases there was preservation of the body weight. Cardio-vascular disturbance was an invariable feature. In every case there was either a murmur over the heart or in the neck, and the radial pulse was weak and compressible. There was splenic enlargement in five cases. The liver was palpable and enlarged in three cases. In only three cases were the stomach contents examined after a test meal ; free hydrochloric acid was absent in all. The temperature was elevated, as a rule, but fever was never high, excepting a few days before death in some of the fatal cases. A slight albuminuria occurred in five cases. The stools were negative as to parasites in all but one. In this infusoria in large numbers were constantly present and associated with diarrhœa. Hemorrhages in the skin, either petechiæ or ecchymoses, occurred in the majority of cases. Retinal hemorrhages, demonstrated by the ophthalmoscope, occurred in four cases. (American Journal of the Medical Sciences, November, 1900.)

ANÆMIA, TREATMENT OF.

(From Dr. Senator's address.) As regarded treatment, iron was justly looked upon as a specific remedy. But in many cases iron failed. It must be borne in mind, however, that iron was often given at an improper time, when the stomach might be very sensitive, or it might set up catarrh and make the condition worse. Hydrochloric acid was then very useful. The speaker preferred the saline ferruginous waters : they were borne better and acted on the stools. But they should not be given fasting, and should be given warmed. Small doses also should be begun with 200 to 250 grms. Later on they might be given cold, to the amount of a litre a day. Such saline iron springs were Franzensbad, Elster, Tarasp, &c. Naturally the waters were best drunk on the spot. Such waters were not suitable for home treatment as they readily decomposed. For home treatment, the artificial pyrophosphoric acid iron water was the best. Of pharmaceutical preparations the number was great. Iron was best given in combination with organic acids—lactic, citric, acetic, malic. These were readily digestible, and did not constipate, like the mineral acids. For nervous persons, spts. ferri chlorat. æth., under the name of Tinctura Bestuscheffii were of service. But there were cases where these means failed ; he had seen good from sweating, it often helped when other means failed. It was especially to be noticed, as it had had the best results in out-patient treatment. Hot baths were ordered, or better still, hot-air baths, which could be given at home by suitable appliances. Dyes said that venesection depended on its causing sweating for its good effects. (Medical Press and Circular, June 20, 1900.)

ANASARCA, THE TREATMENT OF.

Dr. Menko, of Amsterdam, said that there were only two methods possible in practice, viz: incision and drainage. He employed incision in patients who were delirious or agitated, or in those who could not remain in bed in consequence of orthopnœa, as well as in cases of epidemic sclerosis occasioned by obstinate œdema. In all other cases he preferred drainage for the following reasons: Incisions healed but slowly. The patients were continuously saturated with fluid. Incisions were painful, and we had no control over the flow of fluid. Finally, the antiseptic treatment of wounds was only attainable by the use of an enormous amount of dressings. The instruments employed by Dr. Menko were his own modification of Curschmann's cannula, and an instrument of his own invention, which acted as a tourniquet, and was used to avoid the flooding of the wounds, which was one of the principal causes of infection. The results of the cases treated by Professor Pel at the clinic at Amsterdam were very encouraging. Dr. Menko had also had cases in private practice in which his method had given excellent results. (From report of Thirteenth International Medical Congress in New York Medical Journal, September 15, 1900.)

ARSENICAL POISONING FROM BEER DRINKING.

(From Dr. T. N. Kelynack's paper.) [For further particulars see article under Nervous System, p. 62]. *General characters.*—The patients are invariably beer drinkers, although some admit partaking of spirit in addition. Both men and women are affected, the latter generally suffering more severely. In most instances the patients have sought assistance on account of the weakness and pains in the limbs. They describe their sensations as like "pins and needles," "numbness," "pricking," "like walking on hot bricks," "scalding." Some complain chiefly of their difficulty in walking. In more advanced cases they declare themselves as "paralysed" and quite unable to get about. In some few the pains are more general. *Cutaneous system.*—In almost every case the skin is more or less involved. (1) Pigmentation is the most conspicuous feature. This may be general. It usually varies in intensity in different parts of the body. As in Addison's disease, it is frequently most conspicuous on exposed parts, over pressure areas, and in the normally pigmented situations. The pigmentation varies from a mere "browning," as from exposure to the sun, to an almost dull black in pigmented regions like the areola. In many the distribution is irregular. (2) Herpes has been met with in a large number of cases. Dr. Forsyth tells me he has had quite an "epidemic" of herpes in his practice. (3) Erythematous eruptions have been present in a large number of the cases. (4) A papular eruption has also been common and usually associated with much itching and discomfort. (5) In many a "branny" desquamation can be observed. The shed epithelium may be pigmented. I have seen it so plentiful as to give rise to a conspicuous deposit on the bed sheet. (6) The cuticle becomes thickened, especially in the hands and feet. Several have particularly complained to me of this. (7) The nails become hard, thick, brittle, and one man tells me the nail "came off of itself." *Respiratory system.*—The mucous membrane of the respiratory passages is much congested in many cases. The nose is often found "running," and moisture from serous discharge is frequently seen immediately within the nostrils. The "catarrh" often involves the larynx, and very many of my cases have complained of huskiness and alteration in their voice. In some few it has been so marked that the patients could only phonate with difficulty. *Circulatory system.*—There seems to be no direct action on the circulatory apparatus. It is important to bear in mind, however, that the irritant may be capable of setting up neuritis in the vagus. *Digestive system.*—The tongue is almost invariably "furred," and in some instances presents an appearance best described as "silvery." The appetite is lost, and nausea and sickness is present in not a few. But I have been surprised to find that many severe cases have never had any vomiting. Diarrhœa is exceptional. Many cases are constipated. Colic is practically never complained of. *Urinary system.*—This presents but little evidence of derangement. (Medical Press and Circular, November 28, 1900.)

ASPIRINE.

(From Dr. Roelig's paper, *Deut. Med. Woch*, February 1, 1900.) In analysing the results derived from the use of aspirine in the thirty-one cases in which all other internal medication was avoided, I must confess that aspirine has proved a most serviceable remedy in the treatment of rheumatic affections, acting both promptly and reliably in many cases. It relieves the pains and diminishes the swelling and fever, and possesses the well-established and, to a certain extent, specific properties of salicylic acid, without the unpleasant and injurious effects of this drug. I am further able to maintain that aspirine reduces the duration of the disease, because it can be administered continuously. Unlike salicylate of sodium, its administration need not be interrupted in consequence of a disagreeable taste or after effects. (The Therapist, November 15, 1900.) [See also *Retrospect*, vol. cxxi., p. 3.]

ATROPINE.

(From Dr. H. D. Rudolp's paper.) It would be a useful rule never to give more than one-hundredth grain of atropine sulphate at one dose, except in emergencies. When emergencies occur, then we are justified in taking risks. Enormous doses are given sometimes in morphia poisoning. Bartholow recommends one-twentieth grain for every grain of morphia taken, and other authorities advise as much as ½ grain of the sulphate to be repeated if necessary in two hours, in this emergency. The stimulating action of atropine, when given within safe limits, suggests many possible uses of the drug. Theoretically it seems likely to prove very valuable in cases of syncope, collapse, and sudden cardiac failure, in all of which there is a great fall of blood pressure, and practically it has been so used with success. Thus Lauder Brunton mentions "a case in which a child was collapsed and apparently dying. A subcutaneous injection of atropine revived her for a time. This was followed by relapse; but another injection was administered with good results, and the child recovered." It would naturally be contra-indicated in collapse from hemorrhage, unless the bleeding point could be secured. Its more prolonged use in threatened cardiac failure has been chiefly tried in pneumonia, and I have frequently thought that benefit accrued from its employment over several days in cases of catarrhal pneumonia in children. Some writers have gone so far as to consider it almost a specific in this affection, but such a belief would probably lead to disappointment. E. Müller has shown that clinically the effect of atropine in hastening the heart's action decreases with advancing age, and is more or less wanting in those cases where the heart has, from valvular disease or other causes, had extra strain thrown upon it for some time. Hence the drug would be of little or no use in breaking down of compensation of the heart. (Montreal Medical Journal, October, 1900.)

AVIAN TUBERCULOSIS.

The possible sources of dissemination of avian tuberculosis are :—(1) By the excreta, which have been found to abound in tubercle bacilli. (2) By the ova : (*a*) Transmission of disease from one brood to the next ; (*b*) ingestion of infected ova. (3) By ingestion of infected fowl. Doubtful sources of danger to human beings. *Conclusions.*—Though the two bacilli present some differences as regards culture, resistance, vitality, and morphological appearances, they are not sufficient to justify the conclusion that they are two entirely different organisms, but that they are two different varieties of the same species. This conclusion is supported by the fact that, as the result of experiment, tuberculosis has been produced in the lower mammals, such as guinea-pig and rabbit, by inoculation with avian tubercle, and in birds, fowls, and pheasants by inoculation with the human tubercle. It is impossible to estimate the amount of danger, if there is any, to which a human being is exposed by the ingestion of a diseased fowl, or of the eggs of a diseased fowl. To own that the avian and human bacilli are identical is to add a further source for the inroads of the tubercle bacillus on the human race. Hitherto the identity of the two is not established. (From Dr. Graham Forbes' paper in St. Bartholomew's Hospital Journal, June, 1900.)

BATHS—ELECTRIC, HEAT AND LIGHT.

Dr. Godfrey Carter read a paper on this subject before the Sheffield Medico-Chirurgical Society, and illustrated more especially the systems of Greville and Dowsing. He pointed out that the hot bath flourished in England during the first three centuries of the Christian era, and then it fell into disuse, but was transmitted through the intervening centuries by the Turks. It is about 50 years ago that the Turkish bath was introduced into England. Its method was by the use of hot-air blasts and radiation from heating plates. But its great disadvantage was that the patient breathed the hot air of from 125 to 240° Fahr. Few people, however, can inhale hot air at a temperature of from 150 to 200° Fahr. without incurring great risk. The human body is capable of supporting, with impunity, exposure to an atmosphere far above that of boiling water, provided the air be dry, and not inhaled. In the Greville system heat only is utilised, while in the Dowsing both light and heat are brought to bear. Exposure of the part to be treated usually extends from 20 to 45 minutes, beginning at a temperature of 240° Fahr., which is gradually raised to 350° and 400° Fahr. The cases most benefited are those of sciatica and lumbago, as well as chronic gout and rheumatism, painful and stiffened joints, and such lesions as football sprains. An exhibition of the Dowsing apparatus in operation concluded the subject. (Quarterly Medical Journal, August, 1900.)

CHLORETONE.

We have seen it do much good in cases of obstinate vomiting following etherisation for abdominal operations, when it seems to act as a local anæsthetic in the stomach and also to produce nervous rest, quiet, and good sleep. It does not irritate the stomach as does chloral, but on the other hand exercises a sedative influence. We have never seen it produce any circulatory or respiratory depression when given in doses which were efficient as sleep producers, although it is but fair to state that we have not employed it in cases which have been addicted to powerful narcotics for a long period of time. On the other hand, we have employed it in a number of instances where patients were accustomed to take considerable quantities of alcohol, although not excessive quantities, and have found that it acted very well. While there can be no doubt that it is best given in sugar-coated tablets, it is not to be forgotten that it can be given dissolved readily in a little warm water, as its taste is not sufficiently disagreeable to make its administration in solution at all difficult. (From leading article in Therapeutic Gazette, July 15, 1900.)

CHOLERA, PRECAUTIONS AGAINST.

(From Dr. A. Mitra's paper.) Always direct your attention first to the water supply. Try to obtain the purest water you can. Boil it well for a few minutes. After boiling store it for the day's use in a clean vessel, protected from dust or any other kind of contamination. It is still safer to add to the boiled water a little permanganate of potash, enough to produce a faint pink-colour. The water will be fit for drinking after 24 hours. I do not believe in filtering. It gives a false sense of security. A Pasteur-Chamberland filter destroys germs, but requires a great deal of care and cleaning to produce the desired result. *Boil* is the word. (2) Next direct your attention to your kitchen. It should be kept scrupulously clean. There should be no sink or drain within the kitchen. The doors and the windows should be provided with *chiks.* The floor, ceiling, and the walls should be washed with hot quicklime solution mixed with a disinfectant. If convenient, provide the cook with a clean towel, a washing basin, and a piece of soap. Only boiled and permanganated water should be used in the kitchen. Cooking utensils should be well scalded. Every article of food should be kept covered, and the cook should be directed not to touch any article of food with his hand, Not a single fly should enter the kitchen. Plates should be washed with boiling water. (3) Next direct your attention to your house. Remove all filth. Clean the drains and flush them well with a disinfectant. Look to the latrines. See that the servants, especially the *mehtar*, do not convert the corners of your compound into a latrine. (4) Milk must always be boiled before use. (5) Avoid rotten and unripe fruits, decomposing and raw vegetables, such as radish, lettuce, and cucumber, dried and decomposing fish or meat, bazaar-made curd or *dahi*, rotten cheese, all tinned provisions and all indigestible articles. (6) Wash your hands well before you take food. Avoid putting your fingers in your mouth without thoroughly washing them. (7) Clean the mouth twice daily or oftener if convenient with an antiseptic wash. (8) The food should be well cooked, plain, and nourishing. Take meals at regular hours. Avoid long fasts and frequent feeding. (9) Avoid overwork, fatigue, late hours, and exposure to sun or chill. Take moderate exercise daily in fresh air. Use clean clothes and bed. A flannel cholera-belt should be worn. (10) Avoid the use of strong purgatives. (11) Be temperate. (12) As a prophylactic you may take 15 drops of diluted sulphuric acid twice daily after food. Acid drinks, and acidulated lemonade are good. (13) Five grains of sulphate of quinine may be taken in the morning if you feel any depression. (14) If you pass a loose motion take a dose of an astringent mixture, which may be always kept in the house, before skilled medical aid is obtained. (15) Do not be seized with a panic or a constant dread of an attack. (The Indian Lancet, September 16, 1900.)

CITROPHENE.

Among the many remedies which flood the market, citrophene, according to F. Kornfeld (*Therap. Monatshft.*, September, 1900), deserves more than passing notice. Marked advantages are ready solubility in carbonated waters, a pleasant acidulous taste, and absence of after-effects even in cases of cardiac insufficiency or degeneration of the heart muscles. Not only does it reduce temperature in fevers, but in rheumatic affections and in the various neuroses it often acts as a specific, and in pertussis and chronic morphine-poisoning it is without peer. It has also been recently recommended in influenza and the author can heartily endorse its usefulness. (Medical News, October 13, 1900.)

COLDS, TREATMENT OF.

Cocaine should rarely be used in this condition and never prescribed. It can effect but little good and has enormous possibilities for evil. The simplest and, at the same time, the most beneficial treatment consists in bathing the nostrils with a warm $\frac{1}{2}$ per cent. salt solution. This normal physiologic solution soothes the mucous membrane and washes it free of acrid or tenacious secretions and is absolutely uninjurious to the mucous membrane when properly applied. After its use by means of some form of douche, the atomiser not being so efficient, the patient should not blow the nostrils for ten or twenty minutes, so as to avoid forcing any of the solution into the Eustachian tube. The solution should be used gently and with only sufficient pressure to allow it to pass through the throat and the other nostril. Where ordinary precautions have been used I have never seen a case where an irritation of the ear has been produced by its use. While this treatment is simply palliative, it has the advantage of being free of any ill effects, which cannot be said of other methods of treatment. (From Dr. Scheppegrell's paper in Medical News, October 13, 1900.)

CURVATURE OF SPINE, TREATMENT OF LATERAL.

(By Noble Smith, F.R.C.S., *The Lancet*, July 7, 1900.) As a rule the patient should rest in the recumbent position whilst carrying out the general exercises, so that the weight of the body does not influence the spinal curves. But after a time, when he can sit up in a chair for five minutes in a normal position without the curves returning, the exercises need not be restricted to the recumbent posture. The muscles which extend from the arm to the spine are the trapezius, the rhomboidei, and the latissimus dorsi, and these are attached to the spinous processes of the vertebræ. In consequence of the rotation of the vertebræ in lateral curvature the spinous processes are directed towards the side of the *concavity*, and the rotation is the part that offers the most serious obstruction to treatment. The author recommends: (1) exercises bringing into play the trapezius, rhomboids and latissimus dorsi on the *convex* side of the curvature; (2) exercises bringing into play, on the *concave* side of the curvature, the muscles which extend from the arm to the front of the body. The object of the first series of exercises is to draw the vertebræ round to their proper position; the object of the second series is to draw backwards the prominent side of the thorax. Although this plan of exercises acts directly only upon the dorsal curve, yet the resistance of the pelvis to the action of the arms tends to twist the lumbar part of the spine in the opposite direction and thus produces the exact action that is required. The exercises upon the *convex* side of the curvature should be carried out by fixing a hook, with an elastic band attached, on a level with the top of the patient's shoulder (while sitting). The patient draws back the elastic expander with the arm on this side. A photograph is given showing how by this movement the spines of the vertebræ are brought into correct position. On the side of the concavity the elastic band is fixed behind the patient and drawn forwards (over the shoulder). This movement brings into action the pectoralis and other muscles passing from the front of the chest to the arm.—(Dr. R. T. Williamson's abstract in Medical Chronicle, August, 1900.)

DIABETES IN CHILDREN.

I believe we can sum up our knowledge of this disease very briefly. First, I would call attention to its exceeding rarity. The next point that I should make is that the disease is exceedingly fatal in young children. Why this is so, I am at a loss to explain. In looking up the literature I found one case which was reported to have recovered. In the light of our present knowledge of this disease, and particularly what we have heard about testing for glucose in the urine, I should doubt if in this case the diagnosis was correct. The third point I should make is that this disease in children is accompanied by exceedingly rapid emaciation. I believe whenever a child is brought to the physician with a rapid atrophy he should examine the urine for sugar. I wish to emphasise the statement that this is one of the diseases of childhood which produces rapid atrophy. (From Dr. H. Dwight Chapin's paper in the Journal of the American Medical Association, September 15, 1900.)

DIABETIC BLOOD, TEST FOR.

The methylene-blue reaction of diabetic blood (see *Retrospect*, vol. 114, p. 10) is exceedingly delicate, and may be obtained even when the urine contains only a very small quantity of sugar. Usually there is no difficulty, however, in diagnosing diabetes mellitus clinically. The examination of the urine is generally sufficient. The methylene-blue reaction of the blood is present in diabetic coma, and in this condition if the urine could not be obtained for examination (*i.e.*, if the bladder should be empty) the blood reaction would be diagnostic. R. Müller has recorded a case of diabetic coma in which the diagnosis was definitely made by the blood reaction which I have described, the bladder being empty and no urine being obtainable. In five cases of diabetes mellitus I have removed blood from the internal jugular vein post-mortem, and in every case 20 cubic millimetres of the blood gave the methylene-blue reaction markedly. Further, it is an interesting practical point that the reaction is obtained many hours after death. The reaction, of course, is obtained early as well as later. I obtained it in one case in the blood taken from the internal jugular vein three hours after death. I have examined the blood taken post-mortem from the internal jugular vein of 20 individuals dying from various other diseases, but have never obtained the reaction. Hence this reaction may be of practical diagnostic value, pathologically and medico-legally, in certain cases. I think it is advisable, when the blood is examined post-mortem, to always take it from the internal jugular vein. Blood from this vein is not liable to be contaminated by other fluids during the necropsy. (From Dr. Williamson's paper in The Lancet, August 4, 1900.)

DIONIN.

This drug has been employed by Dr. H. Higier, of Warsaw, Poland (*Therap. Beil. d. Deut. Med. Woch.*, xxv, 75), in forty-nine various cases with a view to testing its efficiency as a sedative. He used it almost exclusively in chronic severe cases in which the cough was exceedingly troublesome both night and day, and in which the usual narcotics had been ineffectively employed. With the exception of two cases of bronchial asthma, the majority of the cases treated were of advanced tuberculosis of the lungs, with or without affected larnyx or pleura, the balance being chronic cases of bronchitis with pulmonary emphysema. In almost every case of tuberculosis the excellent action of the dionin was recognised. A number of the patients demanded a renewal of the remedy, as it afforded them quiet prolonged sleep, suspended the troublesome cough, diminished the dyspnœa, and rendered expectoration easier. The most remarkable effects were observed in the very annoying cough accompanying laryngeal or pulmonary phthisis. The action of dionin was less prompt in emphysema, so far as permanence of effect was concerned, though most patients preferred it to other remedies. No results whatever were obtained in bronchial asthma, in which affection it was given in the ordinary doses at first, and later on in even double doses. So far as unpleasant symptoms are concerned, such as accompany the use of morphine or its derivatives, only two patients (one a woman in the seventh month of pregnancy) complained of increased perspiration, nausea, and partial loss of sensation. Of disagreeable effects on the gastro-intestinal tract not one complaint was made. In three cases, changes were made thrice from dionin to morphine, codeine and heroin, but in every case the patient believed the most benefit to be derived from dionin, though no suggestion as to the changes had been made. Dionin was given in doses like those of codeine—about $\frac{1}{4}$ grain three times a day—in solution, syrup, powder or pill. (W. Essex Wynter, M.D., *Treatment*, April, 1900, p. 98.) (Glasgow Medical Journal, September, 1900.)

DIPHTHERIA ANTITOXIN AND PARALYSIS.

Dr. F. Ransom thus sums up the results of his experimental investigation :—(1) Paralysis may certainly be expected after intoxication with not less than one-fourth of the minimal fatal dose. With doses between one-fourth and one-eighth paralyses occur, but are not constant, and below one-eighth no paralysis was noticed. (2) The larger the dose of toxin the severer will be the paralysis, if the animal survives long enough. (3) Neutralised mixtures of toxin and antitoxin, containing only about one lethal dose or less, do not appear to cause paralysis. (4) Antitoxin given 15 to 22 hours after intoxication, with doses of toxin not greater than the lethal dose, exercises in large doses a mollifying influence on the subsequent paralysis. This influence is more evident on smaller doses of toxin than on such as are but little less than the minimal fatal dose. Small doses of antitoxin have no evident effect in diminishing the paralysis. (5) Transferring these results to practice amongst human beings, we may expect liberal doses of antitoxin, given early in the illness, to influence favourably the subsequent paralysis, and this beneficial influence is likely to manifest itself not so much on the local paralyses (soft palate, &c.) as on such symptoms as failure of the heart. Severe cases are, however, likely to be followed by some paralysis in spite of even large doses of antitoxin. (Journal of Pathology and Bacteriology, July, 1900.)

DIPHTHERIA BACILLI IN HEALTHY THROATS.

To briefly sum up the principal points which should be emphasised :—(1) Diphtheria bacilli are seldom found in the throats of those who have not been exposed to diphtheria. (2) The bacilli are more frequently found in those who have been exposed, especially in persons living under poor hygienic conditions or in institutions. (3) The conditions of institution life which favour the growth of the bacilli in healthy throats are the living together of a large number of persons in a limited air space. (4) Healthy individuals with virulent bacilli in their throats can spread the disease. They are just as dangerous as mild or convalescent cases of diphtheria, and ought therefore, to be detected and isolated. (5) Cultures ought to be made among those who have been exposed to diphtheria : (*a*) by physicians among the members of a family who have been exposed ; (*b*) by inspectors in the schools ; (*c*) by health officers under any circumstances when they think the disease is being or may be spread by such individuals. (From Dr. F. P. Denny's paper in the Boston Medical and Surgical Journal, November 22, 1900.)

DIPHTHERIA, EARLY SYMPTOMS IN.

In no fewer than 28 of 85 cases, the thermometer revealed the onset by showing the presence of pyrexia before any complaint had been made. In 16 instances the patient complained of sore throat, in five there was first observed croupiness or hoarseness, in three others a discharge from the nose occurred for which no account could be given, and they were therefore examined bacteriologically, whilst in the remaining cases the attack was usually observed in the routine examination of the throat, which is practically universal in such a hospital as this. Without doubt, had they been adult intelligent patients, as already noted, most of the latter would have complained of sore throat, yet I am thoroughly satisfied that in a not inconsiderable number of cases general malaise or pyrexia is to be observed before the local symptoms have attracted the individual's attention. (From Dr. Marsden's paper in British Medical Journal, September 8, 1900.)

DIPHTHERIA IN ANIMALS.

Dr. Cobbett, at the meeting of the Pathological Society of London, June 30, 1900, showed some cultures which had been obtained from the nasal discharge of a pony. The original culture was sent by Dr. Mearns Fraser, Medical Officer of Health for Portsmouth, who, while investigating the causation of an attack of diphtheria in a little girl, had noticed that her father's pony was suffering from a purulent and slightly-sanguineous nasal discharge. Experiments were described which established the identity of the bacillus ; 0·1 c.c. of a living twenty-four-hour-old broth culture killed a guinea-pig in six days, while 1·0 c.c. of the same culture, to which 0·01 gramme of antitoxin had been added, was quite harmless to another. Again, 0·05, 0·1, 0·5, and 1·0 c.c. of the filtrate of an eleven-day culture killed guinea-pigs within three days ; while 5·0 c.c. of the same filtrate with 0·01 c.c. of antitoxic serum caused no local swelling and no disturbance of health. (Treatment, September, 1900.)

DIPHTHERIA, PSEUDO-.

(From Dr. Francis Villy's paper.) In dealing with a large number of patients notified as suffering from diphtheria, it sometimes, though seldom, happens that cases are met with which present a faucial condition almost exactly resembling that due to the Klebs-Löffler bacillus : this resemblance may be heightened by the prescence of a profuse nasal discharge, yet the disease differs from true diphtheria in the course which it pursues and in its bacteriology. Only four cases have come under my care, so I judge that the disease must be rare, for it is almost inconceivable that the great majority escape notification as examples of diphtheria. The points in which this affection differs from true diphtheria may be shortly stated. (1) The local faucial lesion is of a more gangrenous nature; in fact the substance which resembles membrane consists for the greater part of slough: ulceration disclosed by the separation of this slough is more constant and extensive than is usual in diphtheria. (2) The disease is of a more febrile nature: delirium is not uncommon. (3) Paralysis is not one of its sequelæ. (4) Recovery, when it occurs, is more rapid, and cardiac affections are not to the front. (5) The Klebs-Löffler bacillus, if found in the throat at all, is present only in small numbers and is probably not a factor in the causation of the lesion (6) Streptococcus pyogenes is the preponderating organism found in the throat. (7) The disease is not at all affected by the administration of diphtheritic antitoxin. (Medical Chronicle, September, 1900.)

DIPHTHERIA, RECURRENT.

In the *Med. Chronicle*, May, 1900, R. W. Marsden has reported three cases of laryngeal diphtheria treated by the antitoxin method, which after entirely recovering from the original attacks had reinfections after twenty to twenty-five days, necessitating in two cases a second tracheotomy. Another case of tonsillar diphtheria had a recurrence five weeks after the first infection. The question raised is whether these were cases of self-infection or due to reinfection from without, and how long immunity from the disease lasts as a result of antitoxin injections. The author does not believe that exposure to the germs outside is necessary for the explanation of these recurrent attacks and when an attack has been terminated by the use of antitoxin, immunity from the disease may end at the expiration of three weeks. It is interesting to note that in each instance the second attack was of an exactly similar type to the original one, seeming to prove that the primary set of infection predisposes that part for some time to a reinfection. The author believes that during convalescence from an attack of diphtheria, the reinjection of antitoxin must be immediately performed upon the supervention of "croupiness" or signs of laryngeal stridor. (Medical News, June 16, 1900.)

DIPHTHERIA, TREATMENT OF.

Musser, in the *University Medical Magazine*, discusses this subject, giving in detail 13 cases in which he used the antitoxin in small and frequently repeated doses. He believes that the serum should be injected at the earliest possible moment, and that small doses will be sufficient in all but the very malignant, the complicated, and the laryngeal cases. All his cases recovered without sequelæ or complications, except one in which post-diphtheric paralysis appeared. The temperature fell to normal and remained so in seven cases, while in five it was normal within three days, and in two very severe infections within five days. He had but one case of albuminuria and erythema, and none of the general joint affections. The writer's method was as follows:—For children under six or eight years the initial dose is 500 immunising units, to be repeated at intervals of six hours if the fever does not fall, if the strength of the patient does not improve, or if the local manifestations are spreading. For children over eight years old 1,000 units are used as an initial dose, and this is repeated, if need be, at intervals of eight to twelve hours. (Pediatrics, July 15, 1900.)

DUCTLESS GLANDS, PHYSIOLOGICAL EFFECTS OF EXTRACTS OF.

(R. H. Cunningham, *Medical News.*) The author relates his experience of the use of animal extracts administered by the mouth. The varying results obtained from the dried extracts he attributes in large measure to the chemical changes which occur in the complex organic components of these tissues incident to their formation into dried powders. He finds that the fresh pituitary body sometimes relieves the headache of acromegaly, but no other recognisable results were produced, although from 25 to 30 glands were given daily. Suprarenal capsules produced no marked benefit in three cases of Graves' disease in which the author tried the remedy, and in Addison's disease it has not satisfactorily realised his hopeful expectations. He notes that when given by the mouth the extract has no influence on blood pressure. The author has reported cases of exophthalmic goitre, which underwent marked improvement, and even apparent cure, under a thymus diet. In his experience these results are not so apt to follow the use of desiccated preparations of the gland. With reference to the thyroid gland the author adds his testimony as to its great value in myxœdema and cretinism. In his opinion the symptoms of thyroid intoxication depend chiefly upon the kind of preparation employed, as well as upon the individual susceptibility of the patient. He avoids the ordinary commercial desiccated thyroid preparations, and now uses the purified colloid obtained from the freshly removed thyroids of sheep, by precipitating an alkaline solution of them with glacial acetic acid, as advised by Hutchison. (Quarterly Medical Journal, November, 1900.)

DYSENTERY IN SOUTH AFRICA.

During the early part of the campaign this disease was very rife, but has now almost entirely subsided. For the most part the attacks were mild and easily cut short by drachm doses of mag. sulph., repeated two-hourly, till all blood and mucus had disappeared. It rarely fails with this form of dysentery, and is the common treatment out here. Ipecacuanha appears to be valueless except in those cases who have had previous attacks in India and elsewhere; then it is strongly indicated. The fatal cases, I believe, are mostly due to want of good treatment, getting out of bed to use the stool, improper diet, and cold. Post mortem one finds very minute ulceration very general throughout the colon, sometimes almost complete loss of epithelium, with great thickening of the other coats—a condition much resembling, if I remember rightly, specimens labelled "ulcerative colitis" in the museum. Large sloughing ulcers, I believe, are rare; in two cases in which I saw them both patients had had previous attacks in India. In one of these the liver was riddled with abscesses. Abscess of the liver is rare following South African dysentery, and I have not seen it. Antiseptic irrigation of the large intestine suggests itself as a very rational treatment in obstinate cases, but there are difficulties in carrying it out. (From Dr. Gordon Watson's letter in the St. Bartholomew's Hospital Journal, August, 1900.)

FILARIAL MOSQUITOES.

In some recent work on a series of filarial mosquitoes at the London School of Tropical Medicine, George C. Low has found the mature worm in the proboscis of the mosquito evidently ready to enter the blood of the next victim of the insect's bite (*British Medical Journal*, June 16, 1900). It is now known that the mosquito does not necessarily die immediately upon depositing her eggs in the water, but can, if fed, go on living and laying eggs for many weeks; and Low has found that the filariæ do not remain passive in the thoracic muscles of the mosquito after issuing from the stomach, but leave that tissue and travel toward the head of the insect and pass into the loose cellular tissue in the neighbourhood of the salivary glands. They are, of course, too large to pass through the salivary duct, as is the case with the malarial parasite, but they bore their way through the base of the labium and push forward along the proboscis. "It is difficult," Low says, "to avoid the deduction that the parasites so situated are there normally, awaiting an opportunity to enter the human tissues when the mosquito next feeds on man." (From leading article in the Medical Record, July 7, 1900.)

GRAVES' DISEASE, TREATMENT OF.

In the *Correspondenz-Blatt für Schweizer Aerzte*, Lanz records the results which he has obtained in the treatment of Basedow's disease with the milk of goats from which the thyroid gland had been removed. The milk was administered to three cases. In the first the treatment was followed in fifteen days by a diminution of the frequency of the pulse, disappearance of the headache and insomnia, improvement of the appetite, and notably diminution in the size of the goitre. In the second patient, after a period of nine weeks, there was noticed a diminution in the frequency of the pulse, improvement in the appetite and sleep, diminution of the tremor, and general systematic improvement. Trousseau's sign disappeared. In the third case, at the end of eight days, there was a diminution of the nervous excitation and exophthalmia. These patients took from two to three glasses of the milk per day. (From abstract in Therapeutic Gazette, June 15, 1900.)

HONTHIN.

Dr. Josef Reichelt (*Wiener klin. Wochenschr*, September 6, 1900) publishes an interesting account of his experiment with a new astringent for the intestinal tract. He has used honthin in 76 cases. In none of these cases were disagreeable symptoms produced, such as vomiting, retching, malaise, heartburn, or pain in the stomach. At first small doses were given : gramme 0·1 (grains 1½) to gramme 0·3 (grains 5), according to age. After the absolute harmlessness of the drug had been established, larger doses were given : gramme 0·25 (grains 3¾) to infants a few weeks old, and gramme 0·5 (grains 7½), and more to older children, four or five times a day. The larger the dose, the better was the result. The lighter cases of dyspeptic and acute catarrhal enteritis showed marked improvement on the day following the beginning of the treatment, and were well after two or three days. Similar good results were obtained in the cases of chronic enteritis. The cases of tuberculous enteritis showed only transitory improvement. The results obtained in the cases of rhachitic diarrhœa were so good that it was not considered necessary to discontinue the administration of cod-liver-oil. In three cases of ptomain-poisoning, calomel was first given, and then honthin ; the result was excellent. The cases of catarrh of the large intestine gave satisfactory results, considering that the remedy was given by the mouth only. Honthin may be given in powder or mixture ; it may be placed on the tongue of the child and washed down with a little fluid, or given in milk or barley-water. After the cessation of the acute symptoms, it is advisable to continue for a while the administration of honthin in diminished doses, in order to prevent a possible relapse. (Treatment, October, 1900.)

HYPERTHYROIDEA.

Hyperthyroidea is less well known, and its existence is less well proved, than is that of athyroidea. *Prima facie* we might expect it to be produced in one or other of the following ways :—(1) By the administration of thyroid secretion or thyroiodin in excessive quantities ; (2) by the administration of iodide of potassium, which increases the amount of thyroiodin in the normal gland ; (3) by hypertrophy of the thyroid gland ; (4) by excessively rapid absorption of the secretion of the gland, even when the latter is of normal function. The first would be an example of thyroid intoxication from without the body : the two last would be examples of auto-intoxication, and the second would occupy an intermediate position. Intoxication from without is a clearly recognised condition. Some persons are made ill by eating sheep's thyroids sold as "sweet-bread," and the toxic symptoms produced by the therapeutic use of thyroid extract are also well known, and are briefly as follows :—A rapid, irregular, and feeble pulse, rise of temperature, which may amount to hyperpyrexia, rapid loss of weight, facial twitching, gastro-intestinal disturbances, and salivation. Thyroid intoxication from the use of potassium iodide is less well known, but some French and Swiss physicians describe as "chronic iodism" a condition which is said to be analogous to Graves' disease. Unfortunately most of the subjects of this chronic iodism have been sufferers from pre-existing Graves' disease (Trousseau), and all that we can say upon this point is that in some examples of the latter disease the use of the iodides appears to intensify the symptoms—a conclusion not without interest in connection with the pathology of Graves' disease itself. Hyperthyroidea as a result of overgrowth of the thyroid gland is also a condition not yet absolutely proved to exist. It is, however, an indisputable fact that some cases of ordinary goitre are associated, either permanently or from time to time, with symptoms of Graves' disease, and possibly such association may be due to hyperthyroidea. The great question then arises is Graves' disease itself a manifestation of chronic hyperthyroidea ? Is the basis of its symptoms an excessive secretion and absorption of thyroiodin ? Personally I am strongly inclined to accept this view, although admitting that it presents many difficulties, especially in the explanation of the eye symptoms. The further possible cause of hyperthyroidea is too rapid absorption of secretion, a condition which must obviously be acute. Of this condition we have several recorded examples, all presumed to result from surgical opening up of the gland, with outpouring and then absorption of its contained secretion. Partial thyroidectomy is adopted for the relief of Graves' disease on the ground that the latter is a hyperthyroidea, and that it should be amenable to the removal of some secreting structure. The results are doubtful and insufficient to prove the theory, but there is no doubt that the operation is occasionally followed by acute symptoms, which we may take to be those of acute auto-intoxication, due to the released secretion being rapidly absorbed through the opened lymphatics of the neck. The symptoms have been syncope, tachycardia, rise of temperature, delirium, coma and death, symptoms which are sufficiently like those of Graves' disease which has taken an acute form or those of poisoning by ingested thyroid extract. (From Mr. W. Thorburn's address before the Manchester Pathological Society, Medical Chronicle, June, 1900.)

HYPODERMOCLYSIS.

Dr. Robert C. Kemp (*Medical Record*, 1900, No. 15) recommends the space between the highest part of the crest of the ilium and the lower border of the ribs toward the outer margin of the lumbar region as the site of election. Dorsal posture is not interfered with, nor do muscular or respiratory movements cause discomfort. Strength of solution, one drachm of sodium chloride to one pint of water. Everything connected with the operation must be aseptic. The specific effect on renal secretion produced by small quantities of normal saline solution appears rapidly. When irrigations were given and potassium ferrocyanide was added to the solution, the urine gave a blue reaction with ferric chloride in less than two minutes, and in addition there was increase of urinary flow. If hypodermoclysis be practised, a similar reaction can be obtained in less than four minutes, with an increase in renal secretion. Enormous increase of urine may follow small rectal injections frequently repeated. Small quantities frequently given subcutaneously act as a better diuretic, causing less strain on the kidneys than a pint thrice daily. By thus increasing the urine excretion of injurious substances is provoked, as in acute diseases. A saline enteroclysis (110° F.) gives the following: (1) An immediate increase in arterial tension; if the temperature of the injection is under 110° F., this result does not follow. (2) At the expiration of ten minutes this stimulation seems to reach its maximum point; arterial tension remains then unchanged. (3) Increase of renal secretion begins after ten minutes, coincident with the increased arterial tension. (4) At the same time there is an increase of blood (?) and body temperature. (5) A second marked increase of renal secretion occurs at the end of twenty minutes' enteroclysis, due to absorption from the intestine. In uræmia, shock, &c., lymphatic absorption is nearly at a standstill; even a small hypodermoclysis requires a long time for absorption; in addition there is no stimulating effect from heat. Saline solution distributed over a large surface, as the peritoneum, either by enteroclysis or enema, has no resistant tension to overcome. There is a widespread area for absorption, together with reflex stimulation of the circulation by heat, and, hence, rapid lymphatic absorption. Thus the action of a hypodermoclysis can be much hastened by a simultaneous hot enema or enteroclysis at 110° to 125° F. In hemorrhage from typhoid and gastric ulcers, hypodermoclysis replaces fluid. It enters the body slowly through the lymphatic system, and is less likely than infusion to cause an increase in hemorrhage. Hypodermoclysis is recommended in various forms of poisoning, especially when the drug is eliminated through the kidneys. In pleurisy with effusion, with renal insufficiency, hot enteroclysis may produce sufficient diuresis to absorb the effusion without aspiration. Then follow recommendations for the use of hypodermoclysis in the colitis of infants, in nephritis complicating diphtheria, with oliguria, in uræmia, and in the preparation for operation of a patient who is suffering from shock. (American Journal of the Medical Sciences, October, 1900.)

INFECTION WITH B. AEROGENES CAPSULATUS.

The following are Drs. Pratt and Fulton's conclusions: Only one of our five cases (Dr. Thorndike's first case) was a pure infection with the gas bacillus. This case shows what marked pyogenic properties the gas bacillus may possess. In three cases the organism appeared to gain entry into the tissues from the gastro-intestinal tract. In two, infection was probably referable to dirt containing the gas bacillus which gained access into the body through wounds in the skin. Our first case shows how readily the organism may be destroyed by cold. The lesions produced by the gas bacillus on muscle tissue are most remarkable. This was shown in both the cases of emphysematous gangrene reported by Dr. Thorndike. In some cases the muscle fibres were broken into small pieces, varying in size and shape. The fragments were separated one from another and laid in different planes. Their torn edges were distinct; their striæ well preserved. The appearance was of débris thrown about by an explosion. In other places, degeneration and digestion of the muscle fibres appeared to have taken place. This digestion is shown by the soft, mushy consistence of the muscle fibres, which can be teased apart with the greatest ease. (Boston Medical and Surgical Journal, June 7, 1900.)

KRYOFIN.

Dr. Albert Breitenstein has employed this remedy chiefly as an analgesic, especially for headaches. An instance of migraine which had resisted long-continued medication was relieved by two seven-grain doses of this drug. It is also an excellent remedy for the headache of acute alcoholism. Recent sciatica, lumbago, intercostal neuralgia, and pleuritic pains are subdued by fifteen grain doses. Insomnia in neurotic individuals is controlled. The remedy is safe and certain in its action, and does not give rise to untoward symptoms.—*Therapeutische Monatshefte*, 1900, Heft 3, S. 137. (American Journal of the Medical Sciences, August, 1900.)

MALARIA, HYPODERMIC INJECTION OF QUININE IN.

For each injection 4 grs. of quinine is dissolved in tartaric acid mixed with 10 minims of distilled water. The syringe is washed thoroughly with boric lotion prior to injection, and after each injection this must be repeated. From among the muscles, viz., gluteus maximus, teres major and deltoid, the above preparation being completed, one may be selected for the introduction of the injection. The particular muscle being decided upon, the selected spot whence the injection will be introduced must then be damped with carbolic lotion (one to forty) and wiped, after which the injection can be administered. The muscle which I used most for the administration of the injection was the teres major, at the corner beneath the scapula. For adults I have invariably used 4 grs. of quinine, administering the injection twice a day, once at 7 a.m., and then in the afternoon at about 4 p.m., repeating the operation every second day for six days, which gives in all 12 injections. Sometimes I have found it necessary, according to the symptoms developed by the patient, to repeat the injections after intervals of six days instead of every other day. In the case of the 151 patients I used to administer the injections after the lapse of an average of 3½ days. (From Dr. Nobin C. Dutt's paper, The Indian Lancet, September 16, 1900.)

MALARIAL DISTRICTS, PROPHYLACTIC MEASURES IN.

Fermi and Lumbao (*Centralbl. f. Bakteriol. u. Parasitenk.*, Jena, Bd. xxviii.) describe the measures adopted for freeing the town of Sassari from mosquitoes. There is first the search for the larvæ. They were most frequently found in the cellars, cisterns, washing troughs in the yards, &c., of houses known to be infested with mosquitoes. They observed that in winter *Culex pipiens* generally laid its eggs in the cellars or cisterns, on account of these places being warmer at that season. In the case of water not used for drinking purposes they used petroleum oil, 5 c.c. for each square metre of surface. This spreads uniformly over the surface, forming a thin impermeable layer, quite sufficient to prevent the larvæ breathing. In summer, owing to evaporation, the protective covering did not last more than six days, but since the larvæ take fifteen to twenty days to develop, the layer of petroleum need not be renewed oftener than once a fortnight. In cisterns and wells with drinking water they used the powdered chrysanthemum flowers, as recommended by Celli, and with excellent results. For killing the fully formed mosquitoes in a house, they found gaseous chlorine the best means, but it could only be used in cellars, unoccupied houses, or when the house could be vacated for some hours during the day. In dwelling houses they prefer fumigation by means of setting fire to a mixture of ground chrysanthemum, pellitory, valerian, and saltpetre. The mosquitoes were found on the walls of the cellars or in corners near the windows. In sleeping- or living-rooms they searched for them near the bed and windows. Sometimes they only found them by setting fire to the fumigating powder, which brought out the mosquitoes from their concealment to the windows, evidently in the hope of escaping. The results got at the prison settlement of the Island of Asinara near Sardinia are striking (*Ztschr. f. Hyg. u. Infectionskrankh.*, Leipzig, Bd. xxxiv. Heft 3). Larvæ were killed by petroleum oil; horse ponds and surface wells were pumped dry every ten or fifteen days, to keep the surface soil as dry as possible. In the houses of the officials, &c., the chrysanthemum powder was burned to kill the mosquitoes, but in the cells, &c., of the prison, chlorine was developed from chloride of lime and sulphuric acid. The cells were large, and suited for about forty occupants, and were vacated by the prisoners during the whole day. For preventing the entrance of mosquitoes, a strong durable curtain, stretched on a frame, was placed in front of each window space. Each morning the chambers were treated with chlorine gas, then, after an hour or two, the windows were opened for ventilation. The following are the results:—Total absence of *Anopheles* from any of the rooms, and a great decrease in the numbers of *C. pipiens.* There were no newly infected cases of malaria, while in the previous year there were forty such cases. (From Dr. Gillespie's periscope in the Edinburgh Medical Journal, 1900, p. 486.)

MALARIA IN YOUNG CHILDREN.

A most important fact which Messrs. Christophers and Stephens have ascertained and which was independently observed by Koch, is that in a native population in a malarious region, while the adults may be perfectly free from the disease, an enormously large percentage of the young children contain the parasites in their blood. Though the disease appears to be much less dangerous to the native children than to new arrivals, implying that they have a degree of congenital immunity, the parasites in the young natives are perfectly efficacious for causing dangerous fever in white people, when conveyed to them by mosquitoes. Hence the important practical inference that white people settling in a malarious tropical region should not, as they now commonly do, plant their houses near native settlements, but place them at some considerable distance from them, about a quarter of a mile being apparently sufficient. And Christophers and Stephens in their last communication have gone so far as to express the opinion that the following of this simple rule would go very far indeed towards rendering the malarious tropics healthy to Europeans. (From Lord Lister's address before the Royal Society, British Medical Journal, December 8, 1900.)

MALARIA, PREVENTION OF.

Professor Koch (*Deut. med. Woch*, June 30, 1900) says that malaria behaves just like the specific epidemic diseases, cholera, plague, &c., and as with these it is precisely the slight cases which are found by experience to require the greatest attention in combating the scourge, so it is with malaria. If one confined one's attention to those patients who go of their own accord to the doctor, one would remove only a fraction of the malaria parasites. There remains therefore no other course than to subject all men who are in any degree liable to harbour malaria parasites, and above all children and recent immigrants, to blood examination from time to time in order as far as possible to discover all hidden cases and render them harmless. This is a very tedious and time-consuming undertaking, but I know not how otherwise we can proceed in order to suppress malaria quickly and certainly. We have worked here exactly on those lines, and I am convinced that it is only by this means that our efforts have been crowned with success. After all these experiences I consider myself warranted in asserting that we are in a position, by means of the procedure which I have described, to make every malarious region, according to circumstances, wholly or nearly free from malaria. The only requisites are the necessary number of doctors and a sufficient supply of quinine. (British Medical Journal, June 30, 1900.)

MEAT, RECOGNITION OF UNSOUND.

In connection with the fact that a strong suspicion should attach to meat that is sodden, care should be taken to bear in mind that frozen meat, when thawed and again frozen and thawed, becomes damp to touch and sight, and is what may be termed "boggy" on the surface. Under the circumstances last mentioned, the absence of the peculiarly distinctive smell of decomposition should aid in distinguishing between sound and unsound meat. It is astonishing how often on strict inquiry it has been found that unsound meat could have been detected and much distress prevented by remembering a few leading facts in regard to the characteristics of sound meat. When cut in two, good meat should have the easily recognised and clearly distinguishable aroma that requires no description. The fat of good beef should be slightly yellow or white, firmly set in the muscle, which latter should be of a bright red colour. To the touch the fat should give a hard and dry feeling, but should not be lacking in an element of greasiness. Further, when pressed with the finger good meat should be juicy enough to allow of a clear red exudation to be squeezed out; in other words, it should not be wet, but should contain a fair supply of red juice. Meat that crackles or pits on tactile examination should be condemned, and though it is difficult to describe it is easy to practically demonstrate the firmness and elasticity which is a feature in sound meat. (From leaderette in Medical Press and Circular, November 14, 1900.)

MILK STERILISATION.

Fortunately it is not necessary to subject milk to a temperature of boiling point in order to destroy pathogenic germs, for recent investigations point quite conclusively to the fact that the bacillus of tubercle, as well as that of typhoid, is killed at a temperature of from 70 deg. to 72 deg. C. (158 deg. to 167 deg. F.) if subjected to its influence for twenty minutes. It is where many spores are present in milk that long-continued exposure to a higher temperature becomes necessary, but the microbes just named appear to form no lasting spores (if, indeed, they form any at all), and themselves succumb at the lower temperature already mentioned. In this way we can render milk safe in a short space of time, and without altering its palatability, digestibility, or anti-scorbutic properties. I have repeatedly demonstrated that the taste remains unchanged; I find the curd formed is soft and pultaceous, so that it can be readily peptonised; while clinical experience has shown me that children can be fed exclusively on milk Pasteurised at this temperature, for such periods as nine, ten, or even twelve months, with the result that they thrive splendidly. (From Dr. Carstairs Douglas's paper in Glasgow Medical Journal, June, 1900.)

MYXŒDEMA, INFANTILE.

Hr. Heubner had had a large number of cases, the results in many of which ought to be described as magical, although this brilliant initial advance was not always kept up ; a great deal depended on the hygienic condition surrounding the child. One child, under treatment from the seventh to the thirteenth year, improved so much that he could play the piano well, but he still remained remarkably passionate. It was a question how far this symptom was connected with the disease. He mentioned also a number of other successful cases. He always began very cautiously. At first he only gave a quarter of a tablet, on account of the possible effect on the heart ; he then gradually and rather quickly increased the dose. In one case the medicine did not suit at all, and it was continued only to satisfy the father. The thyroid caused vomiting, and the treatment not being continued on that account, collapse set in and the child died. (Medical Press and Circular, December 5, 1900.)

OPIUM IN INFANCY.

Dr. Crothers (*Jour. Amer. Med. Assoc.*, May 19, 1900) believes that opium, even in the smallest dosage, continued for any length of time, will be disastrous. "Opium seems to have two distinct effects upon the nervous organism of infancy. Its sedative action is of the nature of palsy. Cell-functions and growth are slowed up, retarded, and finally changed. The changes following long-continued doses become permanent. The temporary symptoms of stupor and dulness persist as imbecility and mental perversion in later life." He cites some striking instances of patients whose passion for alcohol and opium as adults could be readily traced back to constitutional instability acquired in early infancy. The author states that many disquieting symptoms in children at, and just after, puberty are referable to the improper use of opium in infancy. Such symptoms are intractable nervous dyspepsia, great precocity followed by sudden collapse of the over-excited faculties, great exhaustion following slightly excessive physical or mental exercise. Children like this should be closely watched. They often have the "opium diathesis," and will develop the habit on the slightest occasion. The conclusions are evident. Ignorant mothers must be again diligently warned of the dangers of soothing syrups. Children should never receive opium in the smallest doses for more than a day at a time. Its administration should be altogether avoided unless the indication is urgent and not otherwise to be met. "When in doubt" use some other drug.—B. (From a leading article in Pediatrics, August 1, 1900.)

PITUITARY BODY: ACROMEGALY AND GIGANTISM.

To sum up, we would respectfully submit the following conclusions :—(1) That the pituitary body is still functional. (2) That disturbances of its metabolism are the principal factors in both acromegaly and gigantism, the difference between the results being simply due to the stage of individual development at which the disturbance of the function begins. (3) That the nature of the overgrowth in both these diseases is primarily on the order of a pure functional hypertrophy ; later, however, losing some of the definiteness of its impulse, and either producing immature tissue of a mixed type or resulting in simple hemorrhagic exudation, with either cyst formation or complete breaking down of the tissue mass. (4) That it seems probable, although upon this head the evidence is still uncertain, that some part is played by this body in "dwarfism," rickets, and the dwarf forms of cretinism. (5) That a reflex disturbance of its function may possibly underlie the dystrophy accompanying pharyngeal adenoids. (6) That it would appear to be a sort of "growth centre" or proportion regulator of the entire appendicular skeleton. (From Professor Woods Hutchinson's paper in the New York Medical Journal, July 28, 1900.)

PLAGUE.

Dr. Chalmers thus groups the cases arising in the Glasgow epidemic :—(1) Cases arising among contacts with one or other of the wakes (fifteen). (2) Cases occurring among members of two families whose association with the wakes was indirect in the sense that they were the associates of contacts who did not themselves sicken (five). (3) Cases in persons not traceably associated in any way with wakes or contacts (two families). (4) Cases in hospital or disinfecting service (two). *Source of infection.*—The inference from this grouping most obviously is that a strain of infection has gained access to the population, and this impression is supported by the occurrence of a death from plague which occurred in the adjoining burgh of Govan in the end of August. How this has been effected cannot presently be stated with any definiteness. One of the persons attacked was a dock worker, but not employed on foreign-going ships. Moreover, he was not the first person to be attacked. Since the disease was recognised it has been learned that in May last two or three members of the crew of a foreign-going ship were ill while in port here with a glandular affection, the nature of which must now be regarded as conjectural. This ship on her voyage home had a clear health record, but in discussing probabilities it will be borne in mind that the physical surroundings of the crew of a ship become altered when her cargo is discharged and the men have access to the holds. While it remains presently as a conjecture that some sufferer from Pestis minor, " whose movements," as the late Sir Richard Thorne so suggestively puts it, " no one has found cause to control," has been the means of introducing the disease, we are now learning that plague can become so modified clinically that its resemblance to well-marked cases is of the same remote character as is small-pox, when modified by fairly efficient vaccination, to that disease in unprotected persons. (The Practitioner, October, 1900.)

PLAGUE.

Dr. W. C. Hossack thus describes the following types : *The Septic type.*—This type of plague is best described as plague where neither glands, buboes, nor pneumonia can be detected. Major Childe describes a definite collection of multiple affection of the glands, but those are more likely to be detected in the post-mortem room than at the bedside. Moreover, they are to be found along with typical buboes. *The Intestinal type.*—Less than 5 per cent. of the investigated cases were of this type. They were generally registered as cholera, but the high fever and the bloody nature of the stools put this out of the question. Dr. E. C. Pettifer, my colleague, has seen a case with 30 motions a day and a bubo in addition. The diarrhœa in ordinary bubonic cases may be very marked. In District 10 in the epidemic of 1896-97 in Bombay the proportion of this type is put down as 3 per cent. The stools are generally described as thin, yellow, and bad-smelling. Major Gibbons, I.M.S., has described to me a case where the bowel on post-mortem examination was full of black blood. It is a very severe and rapid type, as a rule, thereby distinguishing it from typhoid fever or dysentery ; in cholera one would have the coldness, collapse, and rice-water stools. *The Cerebral type.*—I have called this cerebral in preference to meningeal, as in so many cases where the symptoms would have led to the expectation of finding at the post-mortem examination gross meningeal or cerebral lesions none have been present. Sometimes, however, distinct signs of meningitis are present, according to Captain Thompson (0·66 per cent.). He says : " The frequent presence of cerebral disturbance and the rarity of true meningeal inflammation would seem to prove that the symptoms depend on toxæmia." *The Carbuncular type.*—This type of plague is rare. In the last epidemic I only saw one case of it, and in the previous epidemic only three cases. What struck me in most of those cases which I did see was the superficiality of the swelling and the fact that the induration was marginal rather than deep, also there were no deep excavating sloughs, but only a shallow widespread sloughing of the skin. Dr. K. C. Bose, C.I.E., has remarked the same thing. At the same time I have seen very deep excavation of the thigh in Calcutta and another huge excavation in the lumbar region in Poona. Captain Evans got cultures from a carbuncle on the face, but does not describe it. Our knowledge of this type is at present deficient, and our diagnosis must rest mainly on probability and the excessive gravity of the symptoms compared with the size of the carbuncle. (The Lancet, November 24, 1900.)

PLAGUE: PESTIS MINOR.

Pestis minor, or the ambulatory form of the disease, although of less danger to the life of the individual affected, yet perhaps is of greater danger to the community than Pestis major. It has been frequently observed that in the early days of an epidemic a large proportion of the cases are of this ambulatory nature. The infected individuals move freely from place to place, and spread the disease. Prompt recognition of these cases does much to restrict an epidemic. The adenitis in these cases is usually of a chronic character, and the infiltration of surrounding tissues usually absent. The glands affected are the same as those described under the heading of Pestis major. The constitutional symptoms are usually insignificant and persist for a short time only. It is hardly necessary to point out the importance of a bacteriological examination in every suspected case of plague. All that the practitioner has to do is to make a small incision into the gland, the skin having been previously rendered aseptic. The part may be rendered anæsthetic by freezing, but no chemical antiseptics should be employed. A small piece of the gland tissue should be placed at once into a sterilised test-tube. Broth-tubes may also be inoculated and cover-glass preparations made if these be at hand, and the whole sent to a laboratory for examination. Suspected cases should, of course, be immediately isolated. The danger of infection to nurses and doctors is not great if care be taken and prolonged close contact avoided. No one should be allowed to attend or perform a post mortem examination on a case of plague who has a cut or abrasion on the skin of the hands. The clothing and bedding is best destroyed. In fatal cases the bodies, if not cremated, should be buried in leaden shells to prevent vermin attacking the body and contracting the disease. (From Dr. David C. Rees' paper in The Practitioner, October, 1900.)

RHEUMATISM, THE ETIOLOGY OF ACUTE.

Dr. H. B. Anderson said that chemical and nervous theories that had been advanced to explain this disease had not received confirmation from subsequent research, and offered no sufficient nor satisfactory solution of causation. Among those most competent to speak on the subject, practically all were agreed the disease was of microbic origin. The curves formed by the statistics and the mortality of the disease, its occasional epidemic occurrence, the transmission of the disease from mother to child in utero, the clinical course of the disease, and its affiliation to the joint inflammation, at times complicating gonorrhœa, septicæmia, pyæmia, pneumonia, &c., as pointed out by different observers, were all confirmatory of this view. The pyogenic organisms had frequently been found associated with the lesions of rheumatism post mortem, but these were probably merely secondary. Of all the organisms which have been described as the cause of the disease, he thought the bacillus described by Acholme in 1891, was the only one which had stood the test of subsequent research. This is a large organism, strictly anærobic, resembling the bacillus of anthrax, growing in ordinary media, and easily stained by the aniline dyes. It was often associated with the pyogenic staphylococci and streptococci, though frequently found in pure culture in cases of acute rheumatism. Dr. Anderson reported a case of acute rheumatism in which death occurred during the first week. At the autopsy, four hours post mortem, an acute endocarditis, pericarditis, and double pleurisy was found. Both ærobic and anærobic cultures were made from the various organs. In the ærobic cultures from the pleuræ pericardium, endocardium, liver, spleen, and kidneys, the staphylococcus pyogenes aureus and albus were found. In the anærobic cultures, from the pleura, pericardium and endocardium, a large bacillus, corresponding in every way to Achalame's bacillus, was found, associated with the pyogenic organisms. A culture from the throat three days before death showed the staphylococcus aureus. Dr. Anderson showed microscopic specimens of this organism. The reason why the organism was not more frequently found was probably that death seldom occurred early in acute rheumatism. The organism was a strict anærobic, and so did not grow in cultures as ordinarily made, and it was frequently associated with the pus organisms, so that it was very difficult to separate it out in pure culture. It had been suggested that Achalame's bacillus was the same as the B. ærogenes capsulatus described by Welch, but it gave rise to no gas formation either in culture media or on inoculation, and was otherwise quite distinct. (From report of the Ontario Medical Association in the Montreal Medical Journal, June, 1900.)

RHEUMATOID ARTHRITIS.

(By A. E. Garrod, M.D., F.R.C.P., *The Practitioner*, May 1900.) Cases grouped together under the common designation of multiple osteo or rheumatoid arthritis are doubtfully examples of a single morbid process, and although presenting a certain superficial resemblance, have noteworthy differences in their clinical features. None of them yields readily to treatment, but some prove much more refractory than others, and it is possible to foretell from the character of a case whether there is a reasonable chance of material improvement in the patient's condition. Garrod thinks that, with few exceptions, the cases under consideration fall into three main clinical categories. (1) In older patients the process is gradual, and seldom produces any great degree of crippling, is accompanied by little pain, and is most frequently met with in women who have passed the menopause. In the hands, the terminal interphalangeal joints, the proximal interphalangeal joints, and the carpo-metacarpal joints of the thumbs are specially apt to suffer, with the formation of bony outgrowths (Heberden's nodes), and there is an absence of swelling of the soft parts in the neighbourhood of the diseased joints. Similarly, when larger joints are affected, there is no tendency to the accumulation of fluid in the articular cavities. This variety is conveniently termed *nodular*. (2) In younger patients more acute cases of osteo-arthritis are met with, and may be divided into two clinical groups, the *fusiform* and the crippling varieties, of which the former is by far the more common. It is in cases of the fusiform variety that most good can be done. (3) The third, or *crippling*, variety is usually met with in early adult life, or tends to commence in that period, and to involve many joints in rapid succession. It is apt to become generalised, until scarcely an articulation escapes. Treatment of any kind has little restraining effect, and the prognosis is decidedly unfavourable. (Dr. Ray's abstract in Medical Chronicle, June, 1900.)

RICKETS.

(By Dr. Hille, *Der Kinderarzt*, April, 1900.) There can be no such thing as prophylaxis in rickets as long as we are in the dark concerning the etiology of this affection. It is important to notice the development of rickets as early as possible. Unfortunately rickets but very rarely is preceded by prodromal symptoms, if we except, perhaps, the early appearance of hyperidrosis in the occipital region. The majority of writers maintain that rickets does not develop in the very first months. The writer's experience shows the opposite, and he but rarely found that the disease begins after the sixth month. The treatment should include the observance of proper hygienic measures, above all—a rational bed. A horse-hair mattress and a pillow filled with the same material is all that the child requires, and feather beds must be prohibited. The infants must never be allowed to sleep fully dressed, as is often done. These measures, together with frictions with dilute alcohol, if needed, will help to combat the tendency to profuse perspiration, which is such a fruitful source of the catarrhs of both the respiratory and the gastro-intestinal organs in rhachtic children. Phosphorus, preferably in combination with cod-liver oil (0·01 : 100,0), is especially valuable in the presence of laryngospasm or general convulsions. Another very effective remedy are salt baths, which are best given in 2 to 10 per cent. strength at bed-time. They are well borne, even by the youngest infants, and the bath at 27 deg. C. (80·6 deg. F.) continued for ten minutes will generally secure a quiet, refreshing sleep during the whole night. The author believes that by timely intervention one can prevent the development of the severe types of rickets. (Abstract in Pediatrics, July 1, 1900.)

RICKETS, SUPRARENAL EXTRACT IN.

Stoelzner (*Jahrbuch f. Kinderh*, 1900, Bd. 1) sums up the results of six months' experience of the treatment of rickets by suprarenal extract at Heubner's cliniques, under the following heads :—(1) Suprarenal extract has a favourable effect on the general condition of the child, on the nervous manifestations, on the profuse sweating, and, above all, on those cases where craniotabes is present. Often all these symptoms are greatly ameliorated in the space of a single fortnight. (2) Children treated in this manner rapidly gain the power of walking and running ; the softness of the thoracic walls quickly disappears, and teeth are erupted. (3) The treatment seems to influence only to very small extent the enlargement of the epiphyses, the rickety rosary, the dimensions of the fontanelle, and the spasm of the glottis. (4) The amelioration of all the symptoms is most marked during the first eight days of treatment, after which period the progress is much less rapid. (5) Even in cases complicated by syphilis, bronchitis, and bronchopneumonia, the treatment is almost invariably followed by a very considerable improvement in the rickety symptoms. (From Dr. Dunlop's periscope in Edinburgh Medical Journal, October, 1900.)

ROENTGEN RAYS, THE ANODYNE ACTION OF.

Stembo (*Die Therapie der Gegenwart*, June, 1900) records the results of observations made with the Roentgen rays in the treatment of pain due to neuralgia and allied affections. The action of the Roentgen rays on the affected parts was tried in a series of 28 cases in which pain was the most important symptom. In 21 of these cases recovery occurred (*i.e.*, in 75 per cent.); in the other cases four were improved, three were unaffected. The cases were chiefly neuralgia and sciatica. When the treatment is applied to the face, the unaffected part should be covered by a layer of tinfoil. The treatment should be continued from three to ten minutes (on alternate days). Usually the patient is cured or relieved by three applications: if ten applications fail, treatment with the Roentgen rays is useless. This method of treatment is worthy of further trial, especially in obstinate cases of old-standing neuralgia, and sciatica. (Medical Chronicle, September, 1900.)

SCARLET FEVER, AN ANTITOXIN FOR.

Dr. William J. Class (*Philadelphia Medical Journal*, June 23, 1900) considers that the germ described by him and named the diplococcus scarlatinæ has been conclusively demonstrated by the subsequent investigations of Gradwohl, Jacques, Page, and others, to be the specific causative factor in scarlet fever. He accordingly set to work to try and obtain an antitoxin, and in this paper describes a series of experiments undertaken with this end in view. A culture obtained from the throat of a person suffering from scarlatina the day before the rash developed, was found to contain the diplococci almost free from contamination by other germs. A toxin was obtained from this by straining through porcelain a culture grown for ten days on bouillon. Inoculations showed the toxin to be very virulent. Dr. Class then selected a sow weighing 25 lbs. as the animal on which to commence his experiments, using this animal on account of the known susceptibility of swine to scarlet fever. The first injection of 1 c.c. of the filtered culture produced a rise of temperature of 2° F. in 24 hours, with general malaise, refusal of food, and great thirst; but in a few days the animal had entirely recovered. A second injection of double the dose produced similar results, and a third likewise, until, after a fourth injection of five times the original dose, there was only ½° of rise in temperature. The animal was then bled, and after the blood had stood for 48 hours, a clear, reddish serum was obtained. Four experiments were performed to test the efficacy of this as an antitoxin. For each experiment two guinea pigs were used, one animal receiving the germ alone, the other the germ plus the serum. Six of the eight animals received injections of 1 c.c. of the original culture and three of these 1 c.c. of the serum as well. All of those unprotected by the serum died in from six to fourteen days, while those receiving the antitoxin recovered with but slight reaction. In the other two cases 0·1 c.c. of a culture made from the liver of one of the unprotected animals was used, and only 0·5 c.c. of the antitoxin was injected into one of these. Both animals died, the one not receiving the antitoxin in 15 hours, the other in 36 hours. The injections were all intra-abdominal. Dr. Class does not claim to have produced an antitoxin that will do for scarlet fever what diphtheria-antitoxin has done for diphtheria. He admits that his claim to have discovered the specific germ of the disease is not as yet accepted by the profession. It is his intention, however, to make use of some of this product in the first suitable case of scarlatina that presents itself, and the results will be awaited with interest. (Dr. Blackader's abstract in the Montreal Medical Journal, August, 1900.)

SCARLET FEVER & DIPHTHERIA, MILD CASES OF.

Dr. Newsholme, of Brighton, in his annual report for 1899, writes that it might be assumed from the low death-rate now obtaining that there were few cases of these diseases ; but the fact is that the type of scarlet fever has become so attenuated that in a considerable number of cases no doctor is called in, or he is called in for what looks like an ordinary sore throat, no rash being noticed, and, consequently, infection is undetected, and spreads with great facility. Similarly with diphtheria. It is very difficult to impress parents with the idea that what merely looks like a "severe cold" or an "ordinary sore throat" may be a milder, but equally communicable, form of that dire disease diphtheria. Even among medical men it is often considered to be an argument against the diagnosis of diphtheria that "everything had disappeared from the throat in a couple of days, and the patient showed no sign of constitutional disturbance." If diphtheria is to be successfully kept under control in years like 1899, every sore throat in children must be regarded as infectious, and the patient separated from other children. (Abstract in Treatment, June, 1900.)

SERUM, ANTISTREPTOCOCCUS.

(From Dr. F. J. Harvey Bateman's paper.) As regards the streptococcus, there are many difficulties in arriving at definite conclusions with reference to the beneficial results of remedial serum. In considering the subject, we are at once brought face to face with the initial difficulty arising from uncertainty as to the number of varieties of streptococci. There is a further difficulty, that in many cases of disease the causation is complex, and that their origin lies in a mixed infection. This is more particularly found in cases of infection by means of the bacillus of diphtheria and the streptococcus of septicæmia. Another reason for doubt as regards serum therapeutics is to be found in the frequent absence of any bacteriological proof of the nature of the infection. It must be admitted that instances are by no means infrequent in which no evidence can be obtained from any part of the body as to the real cause of the disease. It is probable that in a proportion of these cases, yielding products absolutely sterile, organisms have been present at an earlier period, and have been destroyed by the products of their own activity. Over and above all these considerations stands out the undeniable fact that many instances, even of grave microbic infection, undergo spontaneous recovery. This has been frequently the case as regards streptococcal disease, and the consideration must render many minds sceptical as to the beneficial effects of antistreptococcus serum. Since the use of the serum about to be considered is still on its trial, every instance in which it has been used must be of some value, and therefore it seems advisable to put on record the following cases, which have been recently under observation in Dr. Gibson's wards in the Royal Infirmary, Edinburgh. The three cases are of considerable interest in many respects. In the first and second it was definitely established that the disease was due to the presence of streptococci. In the first case the effect of the serum was early manifested, and the temperature, which had been fluctuating considerably, came to normal within ten days of the commencement of the administration of the serum. In the second case the serum was not employed until the patient had been under treatment for six weeks, and it was necessary to continue its employment for a considerable longer time. As regards the third case, although every means had been adopted in order to detect the real cause of the disease, it remained obscure. The employment of antistreptococcic serum, therefore, in this instance was simply resorted to on the chance of the infection being due to streptococci, but from beginning to end it may be regarded as an illustration of working in the dark. It was therefore not surprising that the results of treatment were unsatisfactory, and since an autopsy was not permitted, the whole case presents an extremely indefinite aspect. [The three cases included two of septic pneumonia and one of septic infection occurring in the puerperium.] (Edinburgh Medical Journal, July, 1900.)

SNAKE BITE.

About five minutes after the cobra bite on the foot, the patient, aged 35 years, began to feel his leg heavy (as if paralysed) so much so that he could hardly move it. The sensibility of the part was also reduced to a marked degree, he could not feel even when his leg was forcibly pinched or pricked. This loss of sensibility gradually extended upwards from the dorsum of the foot to the middle of the thigh. The man felt drowsy and requested his friend to take him to his bed, at the same time his speech getting incoherent. His pulse was weak, irregular and reduced in frequency (60 per minute); pupils somewhat dilated; his body was cold and perspiring, at times getting rigid. As soon as the patient was brought to me I tied a cord below the knee and made several deep incisions without the knowledge of the patient (evidently owing to the loss of sensibility of the part) on the site of the punctures and allowed the blood to flow freely. The blood that issued from the wound was somewhat dark in appearance. Then I rubbed the wound thoroughly with crystals of permanganate of potash and made a hypodermic injection of liq. ammon fort (ʒ½) over the affected foot, and prescribed strychnine, digitalis, and brandy every three hours. About an hour after the operation the sensibility of the part returned and the patient felt a burning sensation in the affected leg. The drowsy feeling disappeared, but the patient grew very restless and thirsty. Next morning I found the affected foot swollen and the patient was rolling in his bed through pain; otherwise the general condition of the patient was good. Pulse 75 per minute, regular and sufficiently strong; breathing natural, sensibility normal, skin hot (tem. 99·4 F.), and the patient was quite rational. Seeing the excruciating nature of the pain I made a hypodermic injection of morphine hyd. (gr. ⅓) over the affected foot, and within a quarter of an hour after the injection the pain deadened and the patient had a good sleep afterwards. On the third day the man was perfectly well, only there was slight pain and swelling over the affected foot. The patient came to me walking. (From Subodh Chunda Das's paper, The Indian Lancet, November 1, 1900.)

SNAKE POISON, TREATMENT OF.

To sum up, the most commendable treatment would be: One or several tight ligatures should be made above the wound, followed perhaps by deep scarifications; then injection of antivenene, if at hand. If the latter cannot be had, injections should be made of a solution of hypochlorite of lime, 1 to 60, at several points near the bite and elsewhere. Stimulation, if necessary, by either strychnine or atropine or alcohol; hypodermoclysis of physiological saline solution; lavage of the stomach; artificial respiration for hours; and, not least of all, continuous encouragement of the victim, for a deep mental prostration goes together with the physical depression of the nervous centres. (From Dr. Gustav Langmann's paper in the Medical Record, September 15, 1900.)

SUPRARENAL GLAND EXTRACT AS A HÆMOSTATIC.

The advantage of suprarenal extract over the more popular hæmostatics lies in the fact that it acts in very dilute solution, and does not tend to combine with albumen and become inert, in a similar way to ferric chloride ; it must, however, be borne in mind that it does not cause coagulation of the blood, and therefore does not seal the bleeding points with clot. In hæmatemesis the most rational method of using iron is by administering one large dose, since some of it will combine with the blood already shed into the stomach, and an excess is required to cause coagulation of the blood oozing from the vessels and thus seal them. The correct administration of suprarenal extract in the same pathological condition offers considerable contrast ; for small doses may be given, since the drug acts in very dilute solution, but it must be repeated at short intervals, for only while the vessel wall is under the action of the extract will it remain contracted ; coagulation of blood is not accelerated. Practice substantiates theory, for in cases where suprarenal extract has been administered, temporary cessation of bleeding has occurred, but often recurrence of hemorrhage has ensued after several hours when no repetition of the dose has been ordered. Hemorrhage from a small artery is more likely to be efficiently controlled than capillary oozing from a hyperæmic mucous membrane. Two or three tablets crushed and mixed with a few ounces of water and injected into the rectum is the most satisfactory method of applying the remedy in hemorrhage from that viscus. A sterile extract is not irritating, and may be used to wash out the bladder when bleeding occurs from that organ ; it may also with advantage be added to the water used as a uterine douche in cases of post-partum hemorrhage. (From Dr. O. F. F. Grünbaum's paper in the British Medical Journal, November 3, 1900.)

SYPHILIS, EARLY HEREDITARY.

(From a review of a Paris Thesis by Mlle. A. Kalinine, *Revue mens. des mal. de l'énfance*, July, 1900.) The cutaneous manifestations of hereditary syphilis are very complex. It is very rare to see a truly congenital eruption. The order of frequency of the eruptions of early hereditary syphilis is : Pemphigus neonatorum, erythematous syphilid (roseola), erythemato-papular syphilid, mucous patches, acneiform syphilid, desquamative erythematous syphilid, gumma, ulcer. The signs on the part of the mucous membranes in hereditary syphilis of infants are as follows : Coryza, fissures or erosions on the lips, and ulcerations or plaques on the oral mucosa. Coryza usually appears during the second or third week of life, sometimes later The onset is sometimes acute, but usually it is insidious. The discharge is at first clear and serous, but soon becomes purulent, the mucous membrane becomes swollen and covered with crusts, and there is interference with breathing as well as suckling. Respiration may be so impeded that the infant is in danger of suffocation. The duration of specific coryza is long, and the skin around the nostrils and upper lip is irritated, fissures and crusts resulting. Sevestre has observed that the nostrils are drawn inward in this form of coryza, and considers this a characteristic sign of hereditary syphilis. The ulcerations are rare on the vault of the palate, more frequent on the tongue, the gums, and the soft palate. The mucous patches are almost always seen on the tongue, which is also sometimes the seat of marginal exfoliation. The laryngeal manifestations of hereditary syphilis are rather frequent. The symptoms of this affection are the alteration of the voice, cough, sometimes in paroxysms, and interference with respiration. The process is usually insidious, but the physician should be on the look-out for sudden attacks of perichondritis or œdema, which may threaten the child's life. These laryngeal affections of infancy are serious and even fatal. (Pediatrics, October 15, 1900.)

THYROID GLAND, ACUTE ENLARGEMENT OF THE.

Professor Alfred Stengel, of Philadelphia, contributes an article on acute enlargements of the thyroid gland, with reports of cases (*University Medical Magazine*, June, 1900), and refers especially to a form occurring in certain kinds of anæmia, especially chlorosis, the degree of enlargement being more pronounced, as a rule, in anæmias following hemorrhage than in chlorosis, and the associated symptoms being likely to render the differential diagnosis from Graves' disease rather difficult in some cases. In recapitulating his observations, the writer calls attention to the facts that sudden enlargements of the normal thyroid gland may occur in consequence of nervous excitements of various sorts; as the result of intoxication and various infections; at the onset or in the course of exophthalmic goitre; and sometimes in cases of ordinary goitre or of malignant disease, and that when the pre-existing disease of the thyroid gland is slight the sudden enlargement may give the case an appearance of an entirely acute disease, the underlying chronic condition being overlooked. (American Journal of the Medical Sciences, September, 1900.)

TUBERCULOSIS, PREVENTION OF.

Generally speaking, the Milk Clauses which were obtained by a number of corporations, including Manchester, Salford, Stockport, Derby, Blackpool, and Darwen, in 1899, are worked as follows :—For milk entering the towns samples are taken at the railway station and submitted to Professor Delépine for examination. When these are declared tuberculous, an order is obtained from a justice of the peace having jurisdiction in the district from which the milk comes, and a representative of the medical officer of health, with the veterinary surgeon appointed by the corporation, visits the farm, and the veterinary surgeon examines the cows. If he finds cows with suspicious udders he records a description of these, and of their position in the cowshed, declares them suspected, takes samples from the suspected quarters of the udders mixed with milk from the quarters not suspected, and submits them to Professor Delépine. If the samples are declared to be tuberculous, the cow is condemned as a milch cow, and the farmer must isolate the cow and must not keep her in the same shed or field with other cows in milk. Preferably the cow should be slaughtered ; often she is sold, possibly to another dairy farmer. The local clauses do not expressly prohibit this, and undoubtedly herein require amendment. The general effect is to get rid of the infecting cows from the particular farms, but not in all cases from the general stock of dairy cows. As regards cows within the Sanitary District there is no difficulty. Inspections are made of all the cows, and cows having tuberculous udders, or having advanced tuberculosis, are removed to the abattoir and destroyed under supervision. (From Dr. Niven's paper in Tuberculosis, October, 1900.)

TUBERCULOSIS, RAW MEAT JUICE IN.

Charles Richet has published a long account of the value of raw meat juice in the treatment of tuberculosis (*Semaine méd.*, Paris, July 18, 1900). Dogs were inoculated with tubercle and then fed on raw flesh and expressed muscle juice, the results of these experiments having been published in detail in various articles during the years 1899 and 1900. A raw meat diet was found to hinder the development of tubercle and to lead to cure, the quantity required being 180 grms. of meat per kilo of weight of dog. The muscle plasma contains the active substance. Cooked meat is not curative in the same way. In man pulped and shredded meat should be given to the amount of 1 lb. daily or more, or if the muscle plasma (extracted by hydraulic pressure) is given it should be in an amount furnished by 2 or 3 lb. of meat. It is not only a food, but acts as an antitoxic agent. (Edinburgh Medical Journal, October, 1900.)

TYPHOID FEVER, DIARRHŒA IN.

Diarrhœa is not an essential feature of typhoid fever ; many cases run their course from beginning to end without its occurrence, while in not a few cases the bowels are constipated during the whole course of the malady. The amount of diarrhœa varies much. There may be only two or three loose stools in 24 hours or there may be 10 or 12. Their frequency depends on the extent and severity of the local lesion. Up to a certain point looseness of the bowels is rather favourable than otherwise ; beyond a certain point it becomes unfavourable. It is obviously desirable that the separated sloughs should be got rid of and not be allowed to lodge about in the bowel, irritating it and tending to poison the system. Two or even three free stools a day favour the discharge from the bowels of their sloughy and injurious contents ; by so doing they more than counterbalance any weakness resulting from their occurrence. More than three such stools a day is more than is desirable, and anything beyond that should, if possible, be checked. Persistent and frequent diarrhœa occurs only in severe cases, and is always an unfavourable symptom. It means that the bowel lesion is very extensive, and that there is much ulcerative destruction and inflammation of the mucous as well as of the submucous coat. The stools in typhoid fever are generally pale in colour. In milder cases they are of the colour and consistency of pea-soup ; when diarrhœa is more marked they are thinner and more like ochre. In very severe cases they may be dark in colour from oozing of blood from the ulcerated surfaces. The occurrence of frequent dark-coloured stools is one of the gravest complications of typhoid fever. The stools are always more or less offensive, and have an alkaline re-action. (From Dr. T. J. Maclagan's paper in The Lancet, December 8, 1900.)

TYPHOID FEVER, EXANTHEMATOUS FORM IN CHILDREN.

(By Drs. E. Weill and Ch. Lesieur, *Rev. mens. des mal. de l'enfance*, May, 1900). These exanthematous cases are sub-divided into four sub-groups, namely, the benign, the malignant, the intermediate, and the relapsing, according to the presence and degree of intestinal and cerebral symptoms. The rosaceous spots must be considered as an evidence of the activity of the toxin of Eberth's bacillus. While their presence in great abundance does not exclude the co-existence of severe intestinal and general symptoms, nor the scarcity of the spots the co-existence of mild symptoms, there is a certain co-ordination of the eruption to the other manifestations of the disease which often enables one to judge the severity of the case. Opinions of authorities vary considerably on this question. The writers base their statements upon a study of 280 cases of typhoid fever in children, in which the eruption was particularly abundant or of average quantity. They found that abundance of the eruption, mildness of the intestinal symptoms, and benignance of the prognosis were usually associated in these cases. Of the 280 cases 73 had very abundant exanthems, and of the latter only 15 had digestive disturbances worth noticing. Of the total number 73 patients had no noteworthy intestinal symptoms, and of these only 15 had insignificant eruptions. In the exanthematous form without diarrhœa the mortality was *nil*, while the non-eruptive cases showed a death-rate of 6·28 per cent. The exanthematous form is not rare (the writers having collected 59 cases out of the total 280, or 20·71 per cent.), and therefore is noteworthy as a clinical type of the disease which must be distinguished on account of the prognostic significance. (From abstract in Pediatrics, August 15, 1900.)

TYPHOID FEVER IN CHILDREN.

While in children over 15 years, the disease generally assumes the characteristics met with in the adult, in my experience up to the age of 15, it maintains the type met with in childhood ; the symptoms are milder and the duration in the majority of cases is under three weeks. In thirteen of my 100 cases, the onset was sudden. Children, apparently in good health, were suddenly taken ill so that within a few hours symptoms of the disease were well-marked. In every case in which I have noted this fact, the sudden onset was associated with a disturbance of the gastro-intestinal tract attributed at the time to an indiscretion in diet. Of the well-recognised initial symptoms, headache was observed as present in 68 cases (or 83 per cent. of the children over six years of age), and is noted as severe in 16. Vertigo is noted in 19 cases. Anorexia is noted in 49 cases. While no distinct chill is reported, in twelve cases the patients complained of a feeling of chilliness. In 18 cases, vomiting is said to have taken place, but did not recur after the first day. Movements of the bowels, looser and more frequent than normal, were noted in 36 cases. Of these, ten cases were distinctly diarrhœal in character. Six of these were children in whom the sudden onset was attributed to indiscretion in diet. In only four cases did the diarrhœa persist and require special medication. Constipation was present in a more or less pronounced degree in 59 cases, requiring rectal injections. Slight fulness of the abdominal parieties was noted at the onset in 48 cases In 29, it is distinctly stated that no distension was present. Abdominal pain was noted as a complaint in 33 cases, while pain on pressure, a dubious symptom always in young children, is only stated to have been present in 15. Epistaxis occurred in 23 cases. Tonsilitis was present in six cases. A slight convulsion was stated by the mother to have occurred at the onset of the attack in an infant of two years and eight months, but as this was one of the instances in which, apparently, the sudden onset was precipitated by injudicious feeding, its occurrence must be regarded as accidental, and not as an indication of typhoid infection. (From Dr. A. D. Blackader's paper in the Montreal Medical Journal, September, 1900.)

TYPHOID FEVER, PREVENTION OF, IN CAMPS.

Our board has recommended that in permanent camps where water-carriage can not be secured, all fæcal matter should be disinfected and then carted away from camp. For this purpose we have made a special recommendation that galvanised iron troughs containing milk of lime be used for the reception of all fæcal matter, and that the contents of these be removed daily by means of the portable odourless excavator. I am aware of the fact that this method of disposing of fæcal matter will be attended by increased cost, but I am confident that it will greatly lessen the number of cases of typhoid fever. These troughs, and the method of using them, have been fully described in our report. I believe that there is no question pertaining to army hygiene of greater importance than that relating to the method of disposing of fæcal matter. The way in which this is done largely determines the number of cases of typhoid fever that will develop in any command. (From Professor Vaughan's address, Journal American Medical Association, June 3, 1900.)

TYPHOID FEVER, TREATMENT OF.

Two startling and remarkable changes in the treatment of this disease have been advocated by several thoughtful writers, though their arguments are not convincing. The first is the use of a fuller diet, which Barr, Shattuck, and others have advised. Bushuyev treated 318 patients with apparently good results on a much relaxed diet; and Marsden, at the Monsall Fever Hospital, allowed the milder cases in a group of 200 to go on to fish, bread, chicken, and minced meat as soon as the appetite and tongue improved. Half his cases were on fish before the temperature was normal. No perforation and few hemorrhages occurred, while recoveries were rapid and with few complications. Manges gives an able review of the arguments in favour of a change. The other point is the permission for mild cases to step in and out of the bath themselves. This method has been adopted by some American and Australian authorities. Wilson and Salinger at the German Hospital in Philadelphia give a bath whenever the temperature reaches 101·4 deg., and the less severe cases walk from their beds as often as necessary. In no instance have bad effects been observed by them. We may add that their paper shows incidentally the enormous value of the Brand system itself, the proof of which lies on a very different basis. They discuss 1,904 cases treated in Philadelphia hospitals with a mortality of only 7·5 per cent. Hare, of Brisbane, records the same mortality in about the same number of cases. Thompson, of the Roosevelt Hospital, shows only 6·8 per cent. in 368 patients, using, at least of late, artificial Nauheim water for the bath ; and the Bellevue Hospital 9·6 per cent. (From Dr. Parker's summary in the Bristol Medico-Chirurgical Journal, September, 1900.)

VARIOLA.

Dr. T. J. Happel describes an epidemic of a disease resembling small-pox. :—The initial fever, backache, and headache are the same, but all eruptive diseases have the same train of symptoms to a greater or lesser degree. In a large per centum of cases of variola in this stage we have nausea and vomiting, with an inflamed condition of the mucous membrane, whilst in this epidemic this state of affairs has been the rare exception. In variola the eruption is, as a rule, more regular in its development. In this I have seen cases as late as the sixth day with vesicles still appearing. In variola the exception is, as a rule, in the pustular stage, hemispherical ; in this, in the third stage, conoidal in almost every case. In small-pox the rule is that the patient begins to fight for his life on the eighth day, but in this he begins to recover. There is no suppurative stage, but a stage of desiccation, and when the scales are removed by force there are no ulcerated bases seen even in the confluent cases. This eruption has never in a single case been followed by boils or phlegmonous swellings, which are too common in small-pox. Small-pox is prevented by vaccination ; this is not, nor even, so far as my experience and experiments go, modified, as I have seen milder cases in the same house among the unvaccinated than among those whose arms had a vaccin sore 8 or 10, or even 21 days' old. Small-pox, as a rule, stamps its indelible imprint on its victim ; it is the exception to find one "pitted" with this disease, and when pitted at first the skin rapidly becomes smooth. There is no mortality in this disease, but in small-pox about one-fourth of the cases die. In this disease there have been neither complications nor sequelæ, but in small-pox they are the rule. (From Dr. Happel's paper in Journal of American Medical Association, September 8, 1900.)

WHOOPING COUGH, TREATMENT OF.

In a recent number of the *Presse Médicale* quite a long article was published on the use of grindelia robusta in whooping cough. Two indications are to be carried out in the treatment of this disease. The first is to prescribe a drug which shall diminish the number and intensity of the paroxysms; the second is to prevent and combat the secondary infections of the bronchi and lungs. Grindelia robusta is a drug which is certainly very slightly toxic, and possesses two important properties; it is a stimulating expectorant, and it calms the cerebro-spinal system. The cough and dyspnœa are checked, the heart's action is slowed down, and sleep brought on thereby. The vomiting is also checked, the expectoration is not so viscid, and the coughing spells are much diminished in frequency and intensity. Cadet-de Gassicourt, the great specialist for children's diseases, used to give doses varying from 20 to 50 drops. Dr. Huchard, the heart specialist, has given grindelia with drosera in doses of 60 drops a day to children. Dr. Comby prescribes after each attack 10 drops of the following mixture:—Tincture of belladonna, tincture of aconite, tincture of grindelia; of each 2½ drachms. (From Dr. Turner's Paris letter in Therapeutic Gazette, November 15, 1900.)

WHOOPING COUGH, TREATMENT OF.

Kerley (*Archives of Pediatrics*, April, 1900) thus concludes a paper based on 752 cases: "We have learned (1) that every case of whooping cough may be ameliorated either by modifying the severity or by diminishing the number of paroxysms. In many cases both the severity and number of the paroxysms may be favourably influenced; (2) that remedies sedative in character, with fresh air, furnish the best results; (3) that if a remedy is to be of service its beneficial effects will be noticed within 24 hours, always within 48; (4) that the best results are obtained when antipyrin and bromide are commenced at the height of the paroxysmal stage, and then pushed; (5) that these remedies being sedative in character, the effect may be lost in a prolonged case requiring a change of treatment; (6) that children may have whooping cough, and never whoop." (Therapeutic Gazette, September 15, 1900.)

Affections of the Nervous System.

BROWN-SÉQUARD PARALYSIS.

Dr. Richard F. Woods reports a case, and the following points appear of special interest: (1) There was loss of motor power in the arm and leg on the side of the lesion. This is due to the fact that the motor fibres for the arm and leg crossing at the decussation of the pyramids pass down the cord in the anterior and lateral columns of the side of the limbs concerned. (2) There was anæsthesia for all kinds of sensibility in the leg opposite the side of the lesion. This confirms the original theory of Brown-Séquard, that the sensory fibres decussate immediately after or within a short distance of their entrance into the cord, and pass up the opposite side. Anæsthesia for all kinds of sensibility appears, however, in this case to be true only of the lower extremities, for in the arm, opposite the side of the lesion, although the sensibility to painful impressions was lost, tactile sensibility was retained. This is true in a great many reported cases observed sometime after the onset of the symptoms. Turner, from experiments on monkeys, comes to the following conclusion: That after a unilateral section of the spinal cord in the cervical region all forms of sensibility are not abolished in the non-paralysed arms. Sensibility to painful impressions was absent or defective, but tactile sensibility was retained. This would indicate, continues Turner, that the fibres subserving tactile sensibility for the arms pass up both sides of the cervical cord, while those subserving painful and temperature sensibilities pass up the opposite side. (3) There was hyperæsthesia to touch and to all painful impressions on the side of the lesion. This Brown-Séquard thinks is due in a great measure to a paralysis of the vasomotor conductors causing a greater influx of blood and a higher temperature. (4) The muscular sense was diminished on the paralysed side, normal on the opposite side. This diminution of muscular sensibility, according to Brown-Séquard, is due to the fact that the fibres for the muscular sense run their course in the spinal cord uncrossed, just like the motor fibres. Ferrier found in monkeys that after a hemisection of the spinal cord the sense of the positions of the limb appears absent, not on the paralysed side, but on the opposite side. (5) The deep reflexes were exaggerated on the paralysed side. This is probably due to the cutting-off of the reflex inhibitory influences coming from their centre, which is in the optic thalamus. The ankle clonus may also be assigned to loss of inhibitory influences. In nearly all the cases observed immediately after the injury the knee-jerk is absent or diminished on the paralysed side, and normal or slightly increased on the opposite side, but during the progress of the case returns, and in the course of time becomes exaggerated. The experiments of Ferrier on monkeys show that immediately and for a short time subsequent to the operation the knee-jerk on the side of the lesion was in abeyance or very much diminished, while that on the opposite remained normal, but in a short time the absent knee-jerk returned and became much exaggerated. (American Journal of the Medical Sciences, July, 1900.)

CEREBRAL ABSCESS, DIAGNOSIS OF.

(By C. A. Ballance, *Allbutt's System of Medicine*, vol. vii.) From (*a*) tubercular meningitis : (1) The temperature is above normal ; (2) the pulse is 100 or more ; (3) optic neuritis is absent or late in occurrence ; (4) vomiting is neither so urgent nor so frequent as in abscess ; (5) the child is apathetic from the onset of the illness. (*b*) Thrombosis of sinuses in children suffering from marasmus : The temperature and pulse rate are above normal. Another characteristic symptom is an alternate paralysis of the eyes and face. (*c*) Cerebral hemorrhage, embolism, or thrombosis occasionally presents difficulties if it occurs in patients the subject of otorrhœa. The otorrhœa must have lasted months or years before the possibility of its producing central abscesses need be considered, as the sclerotic temporal bone of the aged offers great resistance to the spread of septic processes through it to the brain. When such infection occurs, the symptoms will be gradual in onset rather than sudden. (Quarterly Medical Journal, August, 1900.)

CHOREA, TREATMENT OF.

(By Dr. Penrose, *Clinical Journal*, January 24, 1900.) Concerning the treatment of chorea, the writer's opinion is that arsenic is the only useful drug. "My practice is to put children directly they come into hospital on large doses, 10 to 15 drops of liquor arsenicalis three times a day after meals, and watch carefully during a week's trial. If no symptoms of arsenical poisoning come on, I keep on with the heavy doses for a week. If the patients then be decidedly improved, I go on with the arsenic until either they begin to show signs of the drug having been pushed far enough or until the chorea is much better. If at the end of a week there is no improvement, discontinue the treatment and trust entirely to rest. In the great majority of cases I do not think it is of much use, but in a few instances patients have quietened down exceptionally quickly. (Dr. E. M. Brockbank's abstract in Medical Chronicle, July, 1900.)

DELIRIUM TREMENS, TREATMENT OF.

Dr. Charles G. Stockton (*The American Therapist*, 1900, No. 9) first administered a purgative and later one or two drachms of potassium bromide with thirty grains of chloral or less if the patient is not a robust individual with a strong heart. This may be repeated if necessary, and should the heart fail, digitalis may be given by the mouth or hypodermatically. Later hyoscyamus, camphor or opium may be necessary. Alcohol must be forbidden, and in place a safe, immediate stimulant, as beef-tea with capsicum, freely as a condiment. Diffusible stimulants, like compound spirit of ether, or strychnine, digitalis, and nitroglycerine, may also be given. Aloin in half-grain dose, if chemically pure, may be administered hypodermatically, and will produce a full evacuation; even magnesium sulphate may be given in the same way. Hyoscine hydrobromate in one-hundredth of a grain dose can be given subcutaneously and repeated after two hours; this stimulates both circulation and respiration, but it gives relief at great expense of tissue and disturbance of innervation. The patient is made quiet, but is exhausted by the drug, which is, therefore, only permissible when the delirium is only a temporary one. (American Journal of the Medical Sciences, September, 1900.)

DELIRIUM TREMENS, TREATMENT OF.

(By Charles J. Douglas, Physician-in-Charge of the Walter Baker Sanitarium.) First, patients should be put to sleep soon after their arrival, which can be done with apomorphine in a few minutes without danger and without emesis. Secondly, patients should not be restrained by physical force. This not only adds to their suffering, but increases and prolongs the delirium. It is needless, ineffective and cruel. Thirdly, whisky or alcohol in some other form should be prescribed, as sudden withdrawal aggravates the disease and frequently causes it. The records of death furnished by police stations where drunken men are suddenly deprived of liquor, supply abundant proof of the danger attending such a course. Fourthly, the patients should be nourished with milk, egg-nogg, or some other liquid food. Delirium tremens seldom affects those who have not been deprived of proper nourishment for some time. Hence easily assimilable food is indicated. These methods are the result of my experience in the treatment of hundreds of alcoholics in all forms of the disease. In delirium tremens I never use forcible restraint, never suddenly withdraw alcohol, and have never had a death. (New York Medical Journal, November 17, 1900.)

DEMENTIA, RESTLESSNESS IN SENILE.

Marked general excitability often ushers in the disease, and the senile dement often remains fussily active for a long time. The power of fixing the attention is gone, as is the memory, and the patient generally undoes anything as soon as he has done it; while his irritability of temper and suspicion prevent the carrying out of many of the notions of the moment. But motor restlessness may be a marked symptom, and sometimes gives trouble to those who have the care of these patients. Bucknil, long ago, rightly remarked that senile dementia generally attacks those who have been physically strong, no doubt because the physically feeble die of some other ailment before time has worked special changes in the brain. So the senile dement is often much more vigorous muscularly than most men of his age. Hence when he is restless he requires more careful management than would at first appear necessary. Many senile dements who are apathetic during the day, are extremely restless at night. Insomnia is apt to be a troublesome symptom in all cases of insanity occurring in the old, but there is a special tendency to nocturnal excitement in senile dementia. (From Dr. Conolly Norman's paper in the Dublin Journal of Medical Science, October, 1900.)

DIPHTHERITIC PARALYSIS, TREATMENT OF.

If rest is to be recommended in the hope of preventing the paralysis, it is even of still greater importance in the treatment of this complication, both with the view of preventing its extension and in promoting recovery. Nearly all authors are in accord on this question of rest in the treatment of diphtheritic paralysis. On the least suspicion of the slightest implication of the heart, absolute rest in the recumbent posture is essential. It may be well not even to let the patient feed himself. If symptoms of cardiac failure arise efforts must be made to counter-act it—frequent and regular stimulation, subcutaneous injection of strychnine or sparteine (Comby), ice to the præcordium (Collins), galvanism, &c. Collins recommends faradaism judiciously employed. The value of electrical treatment in warding off alarming symptoms of cardiac failure is shown by a case related by Duchenne, but the patient ultimately succumbed to respiratory paralysis. If the respiratory muscles fail, the faradaic current, inhalation of oxygen, and injection of strychnine may be tried. Respiratory movements may be artificially assisted. Huber also mentions tongue traction. If there is evidence of paralysis of the epiglottis (choking after food) the milk should be first thickened with isinglass (Mackenzie), or the head may be bent backwards in swallowing (Cadet de Gassicourt). If these fail then the tube must be used either through the nose or the mouth. Nutrient enemata may also be employed. During later convalescence massage and galvanism in short sittings and tonic remedies, including strychnine, may be useful. An American author (Mundorff) suggests the treatment of these cases of paralysis by the injection of anti-diphtheritic serum, and he relates two cases in support of his views. (From Dr. E. F. Trevelyan's paper in The Lancet, November 24, 1900.)

EPILEPSY, DIET IN.

In order to avoid the necessity of giving large doses of bromides and thus cause an intolerance of the drug, Toulouse and Richet have devised a diet in which they endeavour to cut down the quantity of common salt which their patients take in food, the rationale of the treatment being that the less of sodium chloride there is in the economy the less bromide salt necessary, as sodium chloride counteracts the effect of the bromide salt. Some thirty epileptics were treated successfully by this method ; but one-half the usual amount of bromides (2 gm.) was used, while the daily consumption of salt was reduced from 14 gm. to 2 gm. The experiment was conducted carefully, and seems destined to be of signal value in bromide medication in selected cases. Féré has very recently proven that if bromides are given to elderly epileptics with great care as to diet and hygienic states of the skin, &c., good results may be obtained, which is contrary to generally accepted belief that there is a marked intolerance of bromides in the aged. (From Dr. L. Pierce Clark's paper in The Journal of Nervous and Mental Disease, July, 1900.)

EPILEPSY, FLECHSIG'S METHOD OF TREATING.

It is well recognised that extreme care is necessary in the administration of opium to epileptics, some of these patients being remarkably susceptible to its action. That this method does occasionally succeed where other means fail is undoubtedly the case, and Professor Haskovie has added three more to the list of cases in which it has proved of service (*Medical Press and Circular*, October 17, 1900.) They were all cases which had been long under treatment by other methods without deriving any benefit, and in all the method adopted by Haskovie was successful in greatly ameliorating the condition of the patients, though not in curing the disease. The diet was carefully regulated, chiefly in the direction of the exclusion of animal food, except milk, which the patients were allowed to take freely. Intestinal antiseptics (Naphthol B) were given, and the bowels carefully attended to. Opium was then administered, beginning with a dose of 0·05 gramme twice a day, increased every few days by 0·01 gramme for nearly two months until 0·10 gramme was given twice a day. Bromide of potassium was then substituted, giving three doses of 30 grains each in the day. This was increased until in three weeks' time the patient was taking three doses of 3 grammes each in the 24 hours, and then the amount of bromide was gradually reduced. Haskovie concludes that he has every confidence in recommending Flechsig's method; but with his next statement, that "it is certainly too early to dogmatise on a method of treatment which has so recently come under observation," I cordially agree; and I must again say that from my own experience, when some years ago I gave the method a fairly extensive trial, I saw no reason for being particularly pleased with it. (From Dr. Johnston's periscope in the Medical Times and Hospital Gazette, November 17, 1900.)

FEEBLE-MINDED, CARE OF THE.

(From Dr. A. W. Wilmarth's paper.) Parents are generally anxious to learn whether such children can be best cared for in their homes, or in the institution. In the home, as the weakest members of the family, they are usually a subject of extra care and indulgence. Faults are excused and overlooked because of their infirmity. They never under any circumstances enjoy companionship. It is absolutely essential for the development of the child's mind, whether this child be defective or not, that there should be the stimulus of championship and rivalry. If the child is below the average standing of his fellows, he cannot but be conscious of it, and the defect is a constant discouragement. It is not strange that they become irritable and difficult to manage under such conditions. Community life is essential to their most rapid advancement. . . . . Their notably poor muscular control can only be corrected by a suitable muscular training. The more delicate movements are developed by simple finger exercises; by the braiding of mats, paper folding, sewing, knitting, &c., the fingers becoming more and more highly educated by introducing finer and more complicated patterns of work. For the muscles of the forearm, wrist, and arms, dumb-bell exercises and Indian clubs furnish the most available means. Systematic movements of the body and limbs are also required. For the muscles of the lower limbs, marching, jumping, and especially the simple exercise of walking the edge of a plank, which requires considerable effort of balancing, are useful. The military drill has been introduced into most of the leading schools, with excellent success. It is difficult to induce even the highest grade imbecile to do much studying. Occasionally we meet one with remarkable memory, which seemingly develops at the expense of the other mental powers, but as a rule they lack the power of concentration of attention. Their thoughts easily wander. Consequently all the exercises I have mentioned are exceedingly useful in overcoming this fault, as they require attention in order to do them well. (Pediatrics, October, 1900.)

GENERAL PARALYSIS.

Dr. F. H. A. Clayton thus describes the management of the fully-established disease :—*Prevention of bed-sores.*—Two conditions are essential to obtain, as at Yarmouth for many years past, complete freedom from these sores—first, and most important, a staff with whom this prevention is a personal matter ; and, secondly, unlimited clean linen. The methods adopted are based on the assumption that the principal excitants of bed-sores are long-continued pressure or contact with evacuations. (1) Contrary to many authorities, one of the first principles is confinement to bed when patients become liable to fall about or are constantly wet and dirty. This renders it infinitely easier to keep them clean and dry, to attend to bowels and bladder, and to supervise feeding, while a more constant watch can be kept upon likely points, and any small abrasion noted in time. (2) To restrict the damage done by involuntary evacuations, which are, as far as possible, prevented by turning out patients after meals, and so on, each has between his thighs a folded sheet which soaks up a good deal and prevents it from running to the hips or excoriating the groins. The frequency of examination for evacuations is regulated by knowledge of the patient's habit. When it occurs the linen is changed, the parts gently washed with soap and water, and dried without rubbing. A complete bath is given once a week or more often if required. (3) *Diffusion of pressure.*—The necessity for a water-bed is governed by the condition of the skin ; if very impressionable and easily reddened, it is early made use of, and is practically always required towards the end. To facilitate change of position, the patient is trained to lie on his side ; the frequency of turning is then regulated in the same way ; if necessary, he is changed every half-hour or so. The most scrupulous attention is paid to the under sheet, that no seams, folds, crumbs, and so on, are under the prominent parts. As the limbs become drawn by contracture, soft sheets or cotton-wool separate the parts in contact. Lastly, all prominent points are daily inspected by the medical officer. (4) *Equable temperature.*—Where all or any part becomes discoloured, cold, livid, and, as sometimes occurs at the end of a protracted case, smells of decomposition, additional heat becomes necessary. Here the limbs are covered with wool or flannel, and hot water bags (not bottles), carefully shielded, are made use of. (5) During or after "seizures," or when an abrasion occurs, increased care in every direction is taken. An abrasion, after washing in weak boracic lotion, is protected by flexile collodion or iodoform dressing. (6) No local means of hardening are used, as all efforts are directed to removal of the causes.

Alimentation.—It is probable that the more simple the diet the less liability is there to maniacal excitement. Macleod tried a purely milk diet in noisy destructive cases with excellent results, but all objected to it after a time. Where dysphagia is marked, a temporary improvement appears to follow gentle massage round about the throat. *Sedatives and hypnotics.*—Perhaps from the deeply engrained sense of discipline, sedatives are rarely necessary in naval cases, but in a few sulphonal has been most useful. If continuously given, it has, in one case at least, however, appeared to paralyse appetite and cause refusal of food. As hypnotics, trional and paraldehyde, from their rapid action, are preferable, but with them also my experience has been that the less given the less are they required. *Other drugs.*—Cod-liver oil with syrup ferri iodidi or quinine has often appeared to temporarily check the emaciation, whether or not associated with tuberculous disease. (Edinburgh Medical Journal, November, 1900.)

HEMIPLEGIA, RECOVERY FROM SYPHILITIC.

Professor M'Call Anderson showed a man, aged 45 years, who had lost power in his left side. On admission on December 11, 1899, there was complete loss of power of the left arm and leg, patient being unable to move a finger or a toe. He answered questions in a slow and somewhat hazy manner. His tongue was protruded slightly to the left side, and he did not appear to have difficulty in drinking fluids. The pupils were equal. Reflexes were present, but deficient. Sensation was not impaired. There was slight enlargement of the inguinal glands, and a coppery stain on the right shin. There was no definite history of syphilis, but patient stated that he contracted gonorrhœa sixteen years ago. The treatment was commenced on December 20. It consisted of 10 grains of iodide of potassium three times a day, this being gradually increased till on January 4, 120 grains were given three times a day. By December 31, patient was much improved, and on January 31 he was dismissed quite well. The diagnosis was that of a gumma pressing on one of the cerebral arteries. (Glasgow Medical Journal, September, 1900.)

HYDROCEPHALUS, INTENSE INTERNAL.

Before the Philadelphia Neurological Society, Dr. W. G. Spiller exhibited the brain from a patient who was 62 years of age. She had been under the care of Dr. Llewellyn, from whom the clinical notes were obtained. She had been a sickly babe, and was said to have been hydrocephalic from birth. Sight, hearing, and speech were good. She had had epileptic attacks for years, and in these frothed at the mouth, and had involuntary defecation, but during the last six years of her life none of these attacks were observed. She occasionally had vertigo or vomiting. No motor paralysis was ever detected, excepting that she walked as though she were lame. She was a fairly intelligent person. The ventricles of the brain were greatly enlarged, and the cortex and adjoining white substances were much atrophied, and measured in thickness scarcely more than a quarter of an inch. Sufficient cerebro-spinal fluid was collected to nearly fill a quart basin, and yet some escaped. The absence of feeble mentality and paralysis in a case of such intense atrophy of the brain was noteworthy. (The Journal of Nervous and Mental Disease, October, 1900.)

HYOSCINE.

Dr. Henry S. Noble (*Yale Medical Journal*, 1900, No. 8, p. 323), after many years of constant use of this drug among the insane, has reached the following conclusions : (1) All patients do not behave the same under its administration. In acute or recurrent excitement two or three of every five will be benefited, and in the recurrent form of insanity attacks of maniacal excitement are frequently averted. (2) Old people, particularly in feeble health, are more profoundly affected by even moderate doses. (3) It is just as efficacious by the mouth as hypodermically, although its action is not quite so rapid. (4) A tolerance is not established except within limits. If, after increasing the dose to one-sixtieth of a grain, the desired effect is not obtained, it is useless to increase it further. (5) Frequent doses are not required, two in 24 hours being usually sufficient. (6) It does not act as a hypnotic except in a peculiar way, wholly different from chloral, opium, cannabis indica, sulphonal, or paraldehyde. It produces sleep normally by allaying cerebral excitement and morbid motor activity. It may be combined with potassium bromide or chloral. (7) Nothing like curative effects have been obtained. Instances of recurrent insanity and *folie circulaire* may be kept in the convalescent wards by its judicious use which otherwise would have spent fully one-third of their time in the excited wards. Its tastelessness permits it being introduced surreptitiously into the patient's coffee should he refuse to take his medicine. For the initial dose one-hundredth of a grain is sufficient. (American Journal of the Medical Sciences, October, 1900.)

INEBRIATES ACTS, 1879-1899 (ENGLAND).

The two Acts of 1879 and 1888, and the amending parts of that of 1898, refer to non-criminal inebriates voluntarily applying for admission to a duly licensed "Retreat." Observing certain formalities, they sign an application for admission to the licensee before any one justice of the peace, who attests their signature. By the Act of 1894, an habitual drunkard convicted of cruelty to a child may, in place of imprisonment, be sent with his consent to "licensed retreat," as if he were voluntarily applying in the ordinary way. This provision appears to be a dead letter. The rest of the Acts of 1898 and 1899 refer to criminal inebriates, who may, on conviction for certain offences, be compulsorily sent to and detained in "Inebriate Reformatories" established or certified by the Secretary of State. The Acts apply, *mutatis mutandis*, to Scotland and Ireland. The Act of 1898 introduces certain novel points: (1) As regards "licensed retreats," the license may be granted for a period up to two years in place of thirteen months. A patient may be detained up to two years in place of up to twelve months, and extension of his term and his re-admission are simplified. By section 14, "The council of any county or borough may contribute such sums, and on such conditions as they may think fit, towards the establishment and maintenance of a retreat under the Inebriates Acts, 1879 and 1888, as amended by this Act, and two or more councils may combine for any such purpose." The great remaining blots on the Act are the necessity of the applicant for admission appearing before a justice at all, and the absence of power for a licensee to recover an escaped patient without a warrant and recourse to the police. (From Dr. William Cotton's paper in the Bristol Medico-Chirurgical Journal, September, 1900.)

LAMINECTOMY FOR DISEASES AND INJURIES OF THE CORD.

Dr. Samuel Lloyd, of New York, has recently operated on fifteen cases of Pott's disease, making a total of 130. This operation was not dangerous *per se*, but at best offered little hope; it was absolutely hopeless if the anterior portion of the spine was diseased. If the disease was strictly localised posteriorly, an early diagnosis having been made, there was ground for hope. The lower the region of involvement the better. He considered that the myelitis was generally due to the pressure from accumulated *débris* rather than to granulation tissue. The operation was hopeless if this change was well established. In Pott's disease operation was rarely indicated after the inception of paralysis, because of the probable establishment by that time of pulmonary or other foci. Tumours gave a 50 per cent. mortality, but this was due rather to their being usually malignant than to a fatal outcome of the operation. Fractures in the cervical region yielded a very small percentage of recovery. The type of fracture was also a factor. Most vital of all was the consideration of elapsed time. He gave the following indications for operation.—(1) If the cord destruction was incomplete ; (2) when the lesion was incomplete but was extending ; (3) when recovery, almost complete, was interrupted by callus formation. In closing, he advocated operation as a desperate chance. (Medical Record, June 16, 1900.)

LANDRY'S PARALYSIS.

By those who incline to the view that Landry's palsy must find a place in the class of peripheral neuritis or in a toxic condition affecting chiefly the peripheral nerves, it is pointed out that the little which is known of its causation points in that direction, for alcohol, exposure to cold, and exposure to the poison of the exanthemata are probable causes of each, while the existence of splenic and glandular enlargement suggestive of some toxic process is common to both. This is certainly the view which commends itself most to my mind, and as other points in favour of the two affections being classed together, I may mention the early shooting pains and malaise, the frequent march of the palsy from periphery to centre, and, above all, the varying combination of motor and sensory phenomena which is found in both affections. This latter variability is well known in peripheral neuritis. I may instance the painful palsy of alcoholic causation and the usually painless palsy of lead, both admittedly due to affections of the peripheral nerves, and which may fairly compare respectively with instances such as those which I have related, in which the sensory phenomena were marked, and those more common cases where sensation is less affected. But that Landry's palsy cannot be accounted for by an affection of the peripheral nerves alone is almost certain. In my first case I note that the paralysis of the external rectus of the eye and of the face were on the same side, and from the known proximity of the sixth and seventh nuclei this is strongly suggestive of a central affection as against a peripheral affection. (From Dr. Wardrop Griffith's paper in The Lancet, November 17, 1900.)

MENINGITIC HERPES.

Evans (*British Journal of Dermatology*, March, 1900) calls attention to the fact that a considerable number of cases of herpetic eruption have their starting-point in a meningitis—a fact of importance, both from a diagnostic and prognostic point of view. Herpes zoster may occur in epidemic cerebro-spinal meningitis, being one of the more common cutaneous manifestations observed in this disease. Herpes may occur in tuberculous meningitis, but it is decidedly rare in this form. It is noticed more frequently in the non-tuberculous basal meningitis of children, being usually bilateral, affecting the branches of the fifth nerve. It occurs in meningitis from extension of disease of the middle ear, usually over some branch of the fifth pair. The characteristics of herpes zoster accompanying meningitis are as follows: A very great tendency to be bilateral, especially noticeable in epidemic cerebro-spinal meningitis and the non-tuberculous basal form of children; greater persistence than the usual form; and, lastly, correspondence of the eruption with the distribution of the nerve-root and not with the distribution of the nerve, except when these are practically identical, as in the dorsal region of the cord. (American Journal of the Medical Sciences, July, 1900.)

MENINGITIS, ACUTE NON-TUBERCULOUS.

Dr. Mya, Florence, read a paper upon this subject before the Thirteenth International Congress. By far the greater number of cases of meningitis of infancy, he said, were produced by the micro-organism of Weichselbaum, meningococcus intracellularis meningitidis. The clinical types of disease brought about by this micro-organism could be reduced to two: (1) the acute type characterised by stiffness of the neck, vomiting, rigidity of the muscles, and high fever. If a post-mortem examination was made the whole surface of the brain would be found covered with a fibro-purulent exudation. The micro-organism was easily found, and would bring about the typical symptoms of the disease in animals if injected into the sub-dural space. The disease generally lasted from three to ten days. (2) The sub-acute type produced a disease which might last for some months, and the disease as described by Carr as simplex basis posterior meningitis belonged to this category. The symptoms were much the same as in the acute disease, only generally very much less marked. The micro-organism was only very sparingly found, and if injected into animals did not produce the same symptoms. There was a form of meningitis which was only very rarely observed, and which was due to the streptococcus pyogenes; but this form was almost always secondary to septicæmia developed within the cavity of the skull. (The Lancet, August 11, 1900.)

MENINGITIS, EPIDEMIC CEREBRO-SPINAL.

After a very exhaustive study of the literature of this subject, and based upon his own observation of an epidemic of cerebro-spinal meningitis, Khtegloff (*Meditsinskoe Obozreine*, April, 1900) comes to the following conclusions: (1) The disease is caused by Weichselbaum's intra-cellular meningococcus; (2) that the meningococcus is a coccus *sui generis*, not to be confounded with other diplococci; (3) that its vitality in agar cultures is especially characteristic; (4) its presence in the nasal secretion of a patient suffering with meningitis is of diagnostic value. (Medical Record, June 30, 1900.)

MENINGO-MYELITIS.

Drs. G. R. Murray and W. Hardcastle describe a case with the bacteriological examination [see also *Retrospect*, p. 58.] In this case of a man, aged 29 years, we have a clear history of an acute onset of the meningo-myelitis following an exposure to cold and wet, combined with fatigue. The similarity to the sequence of events often observed in the development of an attack of acute lobar pneumonia is striking, so that it seems very probable that the myelitis, like a pneumonia, was the result of an infection occurring as a result of a temporary lowering of resistance. This view is strongly supported by the presence of a micro-organism in the meninges and spinal cord, which was undoubtedly possessed of pathogenic properties. The characters of the micro-organisms may be shortly summarised as follows:— A short oval motile bacillus which stains readily by aniline dyes, the stain in many cases showing a much stronger affinity for the ends than for the centre of the bacillus. It can with care be stained by Gram's method, and was found in large numbers in the pia mater, and also in lesser numbers in the substance of the cord. Pure cultures of the bacillus were obtained both from the meninges and also from the substance of the cord itself. Subcutaneous inoculation caused rapid general infection in the guinea-pig, and a local infection in the rabbit. The bacillus grows readily on the ordinary nutrient media in both the hot and cool incubators. It liquefies gelatine. (The Lancet, August 4, 1900.)

MENINGO-MYELITIS, ACUTE.

The following is inserted here, as the case resembles in some particulars that given on p. 57 by Drs. Murray and Hardcastle, but the bacteriological examination was quite incomplete :] *Summary*.—Man, aged 37 years, exposed to severe cold on March 22. Great pain in the back from March 24 to April 11. Retention of urine on April 11, and rapid loss of power in the legs two days later. Complete flaccid paraplegia with sensory paralysis and loss of knee-jerks. Unexpected death from cardiac failure on the eighteenth day of the disease. Suppurative external meningitis in the dorsal region. Intense and mostly patchy myelitis from D 3 to L 3. Pus in the muscles of the back. A small localised empyema. No vertebral disease. Cultures were prepared from the pus outside the dura mater, and also from a softened patch in the cord. The same micro-organism (a large diplococcus) was obtained from both these lesions. The bacteriological examination was unfortunately not carried further, as the micro-organism died in a few days. (From Dr. E. F. Trevelyan's paper in Brain, Winter number, 1899.)

MUSCULO-SPIRAL PARALYSIS, TRAUMATIC.

Dr. W. W. Keen relates six cases of secondary operation for wrist-drop from injury to the musculo-spiral nerve by fracture of the humerus. There was complete restoration of function in two cases. The musculo-spiral nerve is peculiarly exposed to accident. Like any other nerve, it may be divided by a stab-wound, gunshot-wound, &c., but there is, perhaps, no other nerve in the body so frequently injured in the fracture of an adjacent bone as is the musculo-spiral in fractures at and below the middle of the humerus. When a complete wrist-drop exists, the hand is practically made useless. If, in addition to this, an ununited fracture of the humerus occurs, the uselessness of the hand becomes practically absolute. The results of a secondary neurorrhaphy is frequently not very good. This is due, I think, to several causes : First, as in several of my cases, from the ignorance and carelessness of the parents, little or no after-treatment is carried out, and unless persistent massage, douching, and electrical treatment is systematically carried out for at least a year, and it may be longer, we can scarcely expect any good result. The simple suture of the nerve, leaving the muscles wasted from their long non-use, will of itself do but little good. The result in two of my cases was so good that surgeons may well take heart in such cases. The methods which I adopted were simple suture after stretching ; secondly, stretching and bridging the still existing gap in the nerve with strands of catgut, and deliberate resection of the shaft of the humerus in two cases. If the stretching alone brings the freshened ends into apposition, nothing more, of course, need be done. In cases in which the two ends cannot be brought into approximation, some means of bridging the gap must be employed. The two cases in this series in which I used catgut resulted in no improvement. I am inclined to blame the method quite as much as the imperfect after-treatment. In one case the result was certainly not only perfect, but much more speedy than I had expected. (Medical Chronicle, August, 1900.)

MYASTHENIA GRAVIS: SALIENT FEATURES OF THE DISEASE.

There is weakness, sometimes amounting to complete paralysis, of some or all of the voluntary muscles After prolonged rest of the affected muscles, *e.g.*, the first thing in the morning, they may respond normally to the will, but they become rapidly exhausted after voluntary contractions, regaining their power again after rest. In severe cases, however, weakness and, indeed, actual paralysis may persist even after prolonged rest. The affected muscles often exhibit the "myasthenic reaction," becoming exhausted by faradic stimulation just as they are by voluntary effort ; galvanism, on the other hand, having little power in this respect. The entire system of voluntary muscles may be affected, but those muscles are most apt to be implicated which normally act most constantly, such as the cervical muscles and the extrinsic muscles of the eye-balls. The bulbar muscles are very generally involved. Hence the term "asthenic bulbar paralysis." A characteristic feature of the disease is its tendency to fluctuate in severity from day to day, or from week to week, or even to disappear for months or years, to reappear. There are no sensory symptoms. Death occurs in a large proportion of the cases, but no structural changes have been discovered to account for the symptoms. (From Drs. H. Campbell and E. Bramwell's paper in Brain, Summer number, 1900, p. 278.)

NEURITIS, MULTIPLE, FOLLOWING PNEUMONIA.

Dr. Lewis Connor, before the New York Neurological Society, showed a man, aged 41 years, who had suffered from lobar pneumonia. Instead of clearing up at the end of the seventh or ninth day, although the temperature fell, the consolidation remained, the case presenting the ordinary picture of delayed resolution, lasting two weeks beyond the allotted time. Just at the end of this period of consolidation, three weeks from the beginning of the attack of pneumonia, it was noticed that his legs were weak and that there was some discomfort in moving them, and the left arm extensors were also paretic. In the course of a week the following picture was developed: Extensive, almost complete paresis of the extensors of the leg, tibialis group, and peroneal muscles, and the extensors of the left arm, and slight loss of power in the right arm; no anæsthesia; some numbness of the tips of the fingers and area of hyperæsthesia over the crests of the ilia on both sides; almost no pain except girdle sensation; very slight tenderness over the calves of the legs and the arms. The diaphragm was not moving properly, and in about a week from the beginning of symptoms of paralysis there was complete loss of function of the diaphragm with either forced or natural respiration. It was a severe multiple neuritis which ran a course of five weeks before any improvement could be noticed. So severe a neuritis was very unusual in lobar pneumonia; it was recognised as a possible complication, but an unusual one, and in those cases in which Dr. Lewis Connor had found it the neuritis had been local or else of a mild type. As to frequency of involvement of the diaphragm in these cases of functional neuritis, he had not seen anything in the literature of the subject, but his impression was that it was not common. (Medical Record, September 22, 1900.)

NEURITIS, SUB-ACUTE, FROM PRESSURE.

(From Dr. Theodore H. Kellogg's paper.) *Etiology:* The immediate cause is pressure of the nerves involved, though it is possible that autotoxic and diathetic states may act as predisposing causes. More recently the writer has known the pressure of a tight coat sleeve to produce a group of symptoms, which he has termed in common parlance "the coat-sleeve arm." These cases are not infrequently called rheumatic or neuralgic, but they improve only when the mechanical cause has been discovered and removed, and they are instances of sub-acute pressure neuritis. Analogous, but more severe, affections are the brachial paralysis neonatorum, the musculo-spiral paralysis potatorum, and the milder forms of traumatic injuries of brachial nerves, including pressure in crutch paralysis. *Symptoms:* In keeping with the severity or mild continuance of the compression, the onset of the symptoms may be sudden or gradual, reaching full height in a day or at the end of weeks. At first there is numbness of the little and ring fingers, with tingling and formication. Later there is paræsthesia of all parts of the ulnar distribution. The pain may be considerable or insignificant, and finally well marked anæsthesia may declare itself, along with an angiospastic state of the fingers, which may assume something of the appearance of "digiti mortui." There is sometimes tenderness over the course of the ulnar, but sensitive points at the wrist and elbow are not present as in ulnar neuralgia. Motor as well as sensory functions become involved in the more severe cases, and there is then difficulty of abduction and adduction, and also of flexion of the fourth and fifth digits. In extreme cases the musculo-spiral and the median nerves may also be affected, but a total arm palsy has not come within the writer's observation. *Clinical course:* The average duration of this affection is some weeks or even months, if the original exciting cause was prolonged; and relapses are readily produced by renewed exposure to the special form of mechanical violence to nervous tissues. *Prognosis:* The outlook for complete recovery is good after removal of the prime cause, though months will elapse before a cure whenever there is much anæsthesia or any muscular atrophy. *Treatment:* The radical part of the treatment is fulfilled by the ablation of the mechanical cause; and then hot applications, especially hot air, massage, electricity, and systematic exercise of the parts affected are to be patiently applied in accordance with symptomatic indications. If toxic substances are suspected as complicating etiological factors, eliminatives, of course, have a rôle to play, and in every case the restoration of the general physical condition is all-important. (Journal of Nervous and Mental Disease, November, 1900.)

NEUROSES OF CHILDHOOD.

(By Dr. O. J. Kauffmann, *Birmingham Medical Review*, August and September, 1900.) The action of the bowels demands attention in most cases; the prevention of auto-intoxication from the intestine depends largely on regular and sufficient evacuation of the bowels. Saline purgatives are of the greatest value—at any rate, to begin the treatment with; they are best administered in the shape of a large single dose of sulphate of soda and magnesia, given one hour before breakfast, or as a somewhat smaller dose at night. Natural aperient waters may be given instead. Calomel, either alone or in combination with colocynth and rhubarb will be found extremely valuable in such cases. On the other hand, senna, aloes, and similar drugs, are less useful. They act chiefly on the lower intestine, whereas the first-named stimulate the flow of bile, and thus help the liver to "eliminate whatever toxic materials it has removed from the portal blood-stream." The object to be obtained is one large stool of porridge-like consistence. Habitual irregularity of the bowels must be changed into habitual regularity. This can be best achieved by a regular course of this daily treatment, which extends over three or four weeks, and is followed by a gradual diminution of the dose, first administered on alternate days, then at longer intervals. This treatment is usually followed by complete success. Should, in such cases, indican continue to be found in the urine, intestinal antiseptics may be given, such as sulpho-carbolate of soda, phenol, salol, mercurial salts, charcoal, and possibly arsenic. The author prefers vegetable charcoal, which, given in 30-grain doses twice daily, seems to disinfect sufficiently the intestinal canal without producing headache or requiring watching. In the author's opinion, perchloride of mercury is too powerful an antiseptic to be given in efficiently large doses. Tonics may occasionally be found useful, especially in combination with saline aperients. (From abstract in Treatment, October, 1900.)

NEURITIS, TREATMENT OF ARSENICAL.

In arsenical cases we did not expect to find impairment of heart or of brain, and based our diagnosis chiefly on the presence of certain symptoms which were known to result from arsenical poisoning. These are :—(1) Certain skin lesions : (*a*) a peculiar pigmentation, sometimes closely resembling that of Addison's disease ; (*b*) herpes zoster, which is present in a small percentage of cases ; (*c*) bullous or erythematous eruptions ; (*d*) a thickened condition of the skin over the knuckles and other places. (2) Loss of hair ; falling off of the nails. (3) Intermittent dysuria or glycosuria. (4) Coryza and œdema of the eyelids. (5) Ulceration of the gums and fauces. (6) The presence or history of acute unaccountable attacks of indigestion, associated with nausea, salivation, and epigastric pain, and sometimes with vomiting and diarrhœa. In the present epidemic most of the features just mentioned have been observed ; it is important, however, to note that attacks of indigestion and other evidence of gastro-enteric disturbance, although occasionally present, have not been conspicuous, and in many cases have been entirely absent. (From Dr. Judson S. Bury's paper in the British Medical Journal, December 8, 1900.)

NERVOUS DISEASE, THE ULTIMATE NATURE OF.

[From Dr. F. W. Mott's second Croonian lecture. The neurone (Waldeyer) includes the nerve cell and all its processes—the protoplasmic processes or dendrons, and the single axis cylinder process, with its cone of origin, its collaterals or side branches, and its terminal arborisation.] The histological elements which make up the nervous system may be divided into two groups : (1) the nervous units or neurones ; (2) the supporting, protecting, and nutrient tissues. Organic diseases may start in a primary degeneration of the nervous units or neurones, or the neurones may be affected secondarily by diseases starting in the supporting, protecting, and nutrient tissues ; such are essentially diseases within the nervous system, and include diseases of the blood vessels, lymphatics, membranes, and special nerve connective tissue (neuroglia). These give rise to secondary degeneration, either by direct injury, inflammatory compression, or by cutting off the blood supply. The causes of pathological processes occurring in the nervous system may be considered under two headings, external and internal, but it may be remarked that in all cases except direct injury the two groups are more or less combined. The external causes depend upon the condition of the blood and lymph, by which the neurones are nourished, and the excess or deficiency of normal stimulation, or existence of abnormal stimulation. The internal causes depend upon the inherent vitality of the neurones themselves. In considering, therefore, the causes of degeneration of the neurone, it will be necessary to point out the result of (1) failure of the blood supply ; (2) toxic conditions of the blood ; (3) the effect of excess or deficiency of stimulation ; (4) inherited defects in the nervous system as a whole, or in some particular groups or systems of neurones. (British Medical Journal, June 30, 1900.)

PARALYSIS AGITANS WITHOUT TREMOR.

Dr. A. A. Eshner, of Philadelphia, called attention in the Pennsylvania Medical Society to the fact that many diseases receive their designation from symptoms supposed to be characteristic, but which in reality are not constant. Thus, we sometimes see typhoid fever without either the typhoid state or fever, small-pox without the exanthem, exophthalmic goitre without protusion of the eye-balls or tumour of the thyroid, and paralysis agitans without the tremor or the typical pill-rolling, pen-holding, or wool-spinning movements. In such cases the diagnosis must rest on other signs, viz., the expressionless face, the subjective feeling of heat, sweating, restlessness, necessitating frequent change of posture, the festinating gait and absence of mental symptoms other than the loss of memory sometimes observed. (Medical News, September 29, 1900.)

SCLEROSIS, DISSEMINATED, AND MALARIA.

Dr. William G. Spiller reports a case in which the symptoms were marked intention tremor of the left upper limb, marked ataxia of the left lower limb, transitory hemiparesis of one side of the body, and later of the other side ; headache, vertigo, drowsiness, diplopia, marked vertical nystagmus, distinctly scanning speech, and exaggerated tendon reflexes on the right side. The man died after an attack of severe diarrhœa, probably of malarial nature. In the microscopical examination every capillary of the central nervous system was found plugged with pigmented malarial parasites of the estivo-autumnal form. A slight area of sclerosis was found in the outer part of the middle third of the left crusta, and the right crossed pyramidal tract was slightly but distinctly sclerotic. The most probable cause of this slight sclerosis of only one motor tract was probably small hemorrhages of ancient date. This view was confirmed by the numerous small recent hemorrhages and altered blood pigment found within the central nervous system. The only apparent cause of these hemorrhages was the malarial parasite. No areas of disseminated sclerosis were found. The case shows that the symptoms of disseminated sclerosis occurring from malaria are probably the result of vascular alteration of the nerve centres. This seems to be the only case on record in which the symptoms of disseminated sclerosis occurred in malaria and a microscopical examination of the nervous tissues was made. (Journal of Nervous and Mental Disease, December, 1900.)

TABES DORSALIS IN INFANTS.

Tabes dorsalis is a rare disease in infants, and the cases recorded in literature amount to six in all — viz., three cases published by Remak, one by Strümpell, one by Mendel, and one by Bloch. Dr. L. Dydynsky gives an interesting account of a seventh case—viz., that of a boy, eight years of age, in whom the tabes had its onset at the age of five years and gave rise to bladder troubles. The patient has since then suffered from incontinence of urine and sometimes from retention of urine. He showed Romberg's symptom while standing, the pupils were of the characteristic Argyll-Robertson type, and Westphal's sign (loss of knee-jerk) was pronounced. There were muscular hypotonia and feebleness but no atrophy or manifest incoördination. He had lightning pains and paræsthesia in the lower limbs, as well as patches of hypoæsthesia and hypoalgesia. The personal history of the patient showed a remarkable freedom from any infectious disease, and there was not any direct sign of hereditary syphilis. The family history was as follows :—The child's father had syphilis when a young man aged 20 years, and was at the time of recording of the child's present illness suffering from incipient tabes with characteristic knee symptoms and pupillary conditions. The child's mother had had five miscarriages before the present child was born. Following him were three other children (infants) who, so far, appear to be well. Dr. Dydynsky insists on the fact that in all the cases observed of infantile tabes and juvenile tabes (Raymond, Homen) syphilis has been noted in the parents, especially the father. Hereditary syphilis is undoubtedly the cause of infantile tabes dorsalis, just as it is also the cause of the characteristic cerebral degeneration which may bring about juvenile general paralysis (Thiry, Alzheimer). It is interesting to note that in nearly all the recorded cases of infantile tabes the symptoms began with bladder troubles and troubles of micturition, after which ocular symptoms followed. (The Lancet, July 28, 1900.)

TABES DORSALIS, TREATMENT OF.

As regards treatment I must say I am rather inclined to have a favourable opinion of the treatment of tabes. I do not feel justified in saying when I see a case of tabes dorsalis, "Well, the patient will never be better." With some experience at my back, I feel I can take a more hopeful view of the cases than I should have done a few years ago. First of all, I do not think one must look for absolute cure. That is not to be expected. But I think one can always very greatly alleviate the condition, and one can usually, I think, with justification encourage the patient to hope for a certain degree of improvement. There are certain cases of tabes which one is forced to recognise as being absolutely incurable, which go steadily down hill from the first; but those are very exceptional, and they are extremely disappointing and trying both to the physician and to the patients themselves. In the majority of cases I think one may expect, at all events, some improvement by careful attention to the different symptoms. The bladder ought to be attended to very carefully, because I believe bladder troubles, such as cystitis and its sequelæ, are the most common cause of death in tabes. The general hygienic surroundings ought to be of the very best obtainable, and exposure to cold, especially to wet cold, ought to be avoided as much as possible. Those are the general rules. As regards drugs for the relief of pains, phenacetin and antipyrin, migranin, and the other analgesics are very important. It is seldom you will have to resort to morphia. In ten or twelve cases which I have under consideration, morphia only had to be used in one, namely, in the patient who had the severe gastric crises. I have never yet found it necessary to give morphia for the lightning pains of tabes; I have been able to relieve them by the use of the other drugs I have mentioned, and similar ones. With regard to drugs with which one hopes to influence the nervous system, I think arsenic is by far the most useful, and the combination of drugs which I have found in the out-patient work to be followed by most benefit has been the combination of arsenic and chloride of ammonium. (From Dr. James Taylor's paper in the Practitioner, June, 1900.)

TABETIC GASTRIC CRISES.

(By Dr. Mathieu, *Rev. de Thérapeutique*, June 1, 1900.) The author enumerates the five different varieties of these crises which were defined by Charcot. The two last of these five groups include those in which the crises occur daily, and those in which the attacks are prolonged. The author considers that those cases in which the duration of the crisis is lengthened are associated with the employment of morphia. The pain is soothed by the use of the hypodermic syringe, but when the patient is not under the influence of morphia he becomes morbidly anxious about the return of the crisis, and by brooding over each individual symptom he ends by provoking a renewed attack. This is, the author thinks, the great drawback to the use of morphia; it tends to make the attacks not only longer but more frequent. And yet there is no other means at once so easily employed and so effective against the terrible attacks which are known as gastric crises. Another interesting point concerning gastric crises relates to the latent character of the general symptoms during the continuance of the crises. It may be that the disease itself makes little or no progress while the gastric crises are acute and frequent. Cases are quoted by the author in which locomotor ataxy has been present for twenty years, and during this long period no other symptoms beyond the gastric have ever appeared. It would seem to be that it is the same with the gastric crises as with the eye symptoms; for it is well known that in cases of tabes in which early optic atrophy and resulting blindness are present the general symptoms are frequently very mild, and sometimes are entirely in abeyance. It is necessary, further, that in dealing with periodical, long continued, and obstinate "bilious attacks" the possibility of locomotor ataxia being behind the symptoms be borne in mind, and in all such cases a careful examination of the knee-jerks, of sensation, and of the eyes should be made. (From abstract in Treatment, September, 1900.)

TUMOUR, HEADACHE IN CEREBRAL.

The character of the headache which we find in brain tumour assists us in making the diagnosis in many instances. In some cases the headache is rare, or when present, is trifling; in others the headache is very intense. The headache of brain tumour is generalised; it is not strictly confined to the temporal, the occipital, or lateral regions, though in some cases it may be, and it is very difficult in children to get a distinct description of its character and location. In certain cases, where the headache is circumscribed and characterised by tenderness of the skull on pressure, it serves as a localising feature. In one case, a frontal headache was associated with tumour in the posterior portion of the temporo-sphenoidal lobe. In another case of frontal headache, the tumour was found in the cerebellum, and in other instances, where the headache has been occipital, the tumour has been found in the frontal regions. Ordinarily the patient first complains of headache. It is a generalised symptom, and may be a slight variation from normal health. The diagnosis of headache entails one of the most difficult problems the physician encounters. Some headaches which have been confounded with those of brain tumour are migrainous. A history of migrane, coupled with the clinical features of the case, should be sufficient in some instances to make the diagnosis. A migrainous patient may have brain tumour. Other patients with severe headaches are those who suffer from neurasthenia. Patients with neurasthenia or hysteria may have brain tumour; and it is only after making a careful examination and eliciting the history of the case that one may be justified in ascribing severe headaches to hysteria or to neurasthenia alone. (From Dr. Archibald Church's paper in Journal of Nervous and Mental Disease, August, 1900.)

TUMOURS OF THE SPINAL CORD AND ITS MENINGES.

Dr. Frank P. Norbury stated before the Illinois State Medical Society that symptoms should be systematically considered. The plan of Eskridge is a good one, namely: (1) irritation of the nerve-roots; (2) meningeal symptoms; (3) cord symptoms. Irritation of the nerve-roots begins by changes in sensibility, such as pain, neuralgic in character. Neuralgia is apt to be the diagnosis. Sensory symptoms, usually unilateral at the beginning, become more pronounced as the neoplasm develops. Segmental diagnosis is of assistance here as soon as local symptoms appear. Motor symptoms usually give the clue as to localisation. Numbness, hyperæsthesia, and later anæsthesia, follow along the distribution of the nerves involved. Contracture, spasm, and exaggerated reflexes of the extremities are noted. There are no pronounced differentiating meningeal symptoms, except Kernig's sign and muscular rigidity when the upper cervical region is involved. Cord symptoms are those of gradual compression, namely, motor and sensory paralysis, spastic symptoms, vasomotor, trophic, and reflex changes. Differential diagnosis as to intradural, intramedullary location requires careful investigation. Vasomotor and trophic symptoms are sweating, unilateral and profuse, occasional deep capillary flushings, herpetic skin-eruptions, bed-sores, change in the skin and nails. (Medical News, July 14, 1900.)

Affections of the Circulatory System.

ABDOMINAL ANEURYSM.

(By Prof. E. V. Leyden, *Deutsche Med. Wochenschrift*, June 7, 1900). A Roentgen photograph showed the aneurysm, which could readily be felt. The patient seemed to improve under rest and gelatine injections, but the chief point of interest in the case was the diastolic murmur, not due to aortic incompetence. This murmur in the case of aneurysm of the arch is due to insufficiency of the aortic valves. But, as Leyden puts it, a murmur is produced by blood flowing from an opening of narrower calibre than the enclosed space into which it rushes. This murmur in the case of aneurysm is usually systolic. But there may be a return wave when the aortic valves close, and, owing to this, blood may flow from an aneurysmal dilatation through an opening of less area than that of the widened diseased aorta. (From abstract in the Quarterly Medical Journal, August, 1900.)

ADONIDIN.

Dr. Heinrich Stern (*Merck's Archives*, 1900, No. 5) states that this remedy, notwithstanding its most prompt and energetic action, may be safely administered in pathological conditions where digitalis, if given at all, should be administered only with the utmost caution. This refers to fatty degeneration of the heart, pericarditis, simple hypertrophy, compensatory hypertrophy and certain atheromatous conditions. In rapidity of action adonidin almost equals nitro-glycerine. In this respect it surpasses by far other heart remedies, as digitalis, digitalin, digitoxin, caffeine, sparteine, strophanthus, convallaria, and convollamarin. In certainty of action it equals nitro-glycerine and surpasses by far caffeine, sparteine, convollamarin, strophanthus, and digitalis or its glucosides. In permanency of action, although no cumulative effects were ever noted, it surpasses nitro-glycerine, caffeine, convollamarin, sparteine, digitalis, digitalin, and digitoxin. Its diuretic action in health is limited. As a physiological diuretic it is decidedly inferior to caffeine, strophanthus, convollamarin, and sparteine. In certain affections of the kidney and in pyretic conditions its diuretic action is more pronounced, which is probably due to increased arterial tension. Its greatest diuretic effect is exhibited in conditions accompanied by dropsy and low arterial tension. In the healthy individual it causes a slight increase of temperature, but it tends to lower the body-heat in pyretic conditions. The dose varies from one-thirtieth to one-tenth of a grain two or three times a day. One-sixth of a grain administered in any form influences the œdematous conditions and produces diuresis, especially when the arterial tension is low. [If the irritant properties of this remedy can be eliminated it would meet certain indications more satisfactorily than others of this class.—R. W. W.] (Abstract by Dr. Wilcox in the American Journal of the Medical Sciences, July, 1900.)

ARTERIAL SCLEROSIS, AN EARLY SIGN OF GENERAL.

(By Dr. Friedmann, *La Semaine Médical*, July 4, 1900.) Accentuation of the aortic second sound, heard best at the level of the second right costal cartilage, has long been held to indicate high arterial tension, and it is commonly present in those affected with general arterio-sclerosis. It is, however, not peculiar to, or pathognomonic of, this affection. In this, the accentuation is often just as intense over the carotid arteries, or over the supraspinous fossa. Moreover, Friedmann, of Vienna, is convinced from an examination of many patients, that in arterio-sclerotics the maximum of accentuation is always to be found at a point near the angle of the left scapula, on a line extending from the angle of the scapula to the spine of the seventh dorsal vertebra. The patient should have the arms crossed over the chest, so as to increase the interscapular space, and should breathe naturally and quickly. Stoppage of the breathing, especially in expiration, interferes with the perception of the aortic sound. Friedmann has found that in healthy subjects, and up to the age of 40 or 45, aortic sounds heard over the back have their point of maximum intensity at the level of the spine of the left scapula, but with advancing years this point becomes lower, though never reaching the lower angle of the scapula, unless there is general arterio-sclerosis. He has observed this sign (maximum accentuation at the lower angle of the left scapula), not only in advanced arterial disease, but in the initial stages of this affection, even in relatively young persons (32 to 34 years of age). On the other hand, he has not been able to discover it in old persons who appeared to be free from vasculur lesions. He concludes that this is an early and pathognomonic sign of general arterio-sclerosis. (Abstract in the Montreal Medical Journal, October, 1900.)

CALOMEL AS A DIURETIC IN CARDIAC AFFECTIONS.

In his thesis (Paris, 1899) Burgeon urges the claims of calomel as a useful diuretic in the subjects of heart disease. The first point demonstrated is that calomel is capable of promoting diuresis in cardiac affections, apart from the existence of dropsy; but it does not so act when there is diarrhœa, which with the supervention of albuminuria are the chief contra-indications to its use. The quantity of calomel necessary to obtain diuretic effects varies from three to six grains daily, which may be administered in a little milk in divided doses at intervals of from three to five hours. There is apparently no advantage in giving larger doses. The function of the kidneys should be carefully watched, and the appearance of albumin taken as a sign for discontinuing the drug. It is hardly possible to say in advance if calomel will exert this diuretic action; but, on the other hand, it often succeeds where other diuretics fail. When after three or four days the increase in urine is not maintained, it is better to discontinue the use of calomel, which might then become a real source of danger. The place of calomel as a diuretic is somewhat of a last resource when others fail, and in this it is often unexpectedly efficient. (From Dr. Wynter's abstract in Treatment, June, 1900.)

DIET IN HEART DISEASE.

The diet which Dr. Graham Steell (*Encyclopædia Med.*, vol. iv.) advises in cases of heart disease free from fever—and the majority of such cases are in this category—is as follows:—Breakfast, 8 or 9 a.m. This should form the carbohydrate meal of the day, and may consist of thin crisp toast, "done through" and with no spongy centre, which is buttered cold, and an egg or two, boiled, poached, or fried. Fat bacon, if strongly desired, may be allowed instead of the egg. A large cup of boiled milk, flavoured with coffee or Chinese tea and sweetened with saxin, should constitute the fluid of the meal. If the patient cares for it, fruit may be allowed. Mid-day meal, 1 or 2 p.m. This meal should consist of a chop, fish, or fowl, and some well cooked green vegetables, and stewed fruit sweetened with saxin. Cheese is apt to prove indigestible, but some patients can digest it very well, and these may be allowed to have it. No carbohydrates of any description are to be taken. Afternoon tea, 5 p.m. A cup of pure Chinese tea sweetened with saxin, but with no bread or biscuit on any account. Evening meal, 7 or 7.30 p.m. This should be a repetition of the mid-day meal, varying the articles of food. A small amount of whisky or brandy in half a tumbler of water may be allowed with this and the mid-day meal, but the intake of fluids must be restricted. A very little clear soup may be taken, and there is no objection to a double course, say fish and a joint. Fruit may follow. A small amount of whisky or brandy in half a tumbler of hot water about 11 or 12 p.m. will often help the patient to a good night, but on no account must any biscuit or bread be taken with it. The "tea meal" or "high tea" of tea, meat, cake, jam, &c., so popular in many districts, is very productive of flatulent indigestion. On such a dietary, cases of chronic heart disease may do very well. (Medical Chronicle, August, 1900.)

DIGITALIS AND ITS DERIVATIVES.

The following are Drs. Arnold and Wood's conclusions :—(1) Digitalin and digitoxin each represent the full circulatory powers of digitalis. (2) Digitalis, digitalin, and digitoxin stimulate the cardio-inhibitory mechanism both centrally and peripherally. In larger doses they paralyse the intrinsic cardio-inhibitory apparatus. (3) They all cause a rise of blood-pressure by stimulating the heart and constricting the blood-vessels. (4) Very large doses paralyse the heart muscle of the mammal, the organ stopping in diastole. (5) Digitalin of Merck is a stable compound, one gramme of it being equivalent to about 70 c.c. of tincture of digitalis. (6) Digitoxin is not to be recommended for human medication on account of its irritant action, which makes it liable to upset the stomach when given by the mouth, or to cause abscesses when given hypodermically. (American Journal of the Medical Sciences, August, 1900.)

DIURETIN.

(By Dr. J. A. MacLaren.) So many patients complained of the nauseous taste of diuretin that I only studied its effects in 12 cases. Polyuria occurred in nine, increased diuresis setting in within 24 hours of the administration of the drug in six cases. The urea eliminated was sometimes increased, sometimes diminished. The pulse tension was invariably lowered. Toxic symptoms were produced in six cases, diarrhœa, giddiness, or vomiting being present on the third or fourth day. The advantage obtained by ordering this drug in preference to others is the rapidity with which it acts, but I find that the tincture of digitalis or Nativelle's granules, given in large enough doses, are almost as rapid in action, cause less gastro-intestinal disturbance, and have a more prolonged beneficial effect. In cases of venous congestion, due to a dilated heart, Nativelle's granules were frequently the only drug that the irritable stomach could retain. Diuretin should be given in doses of not less than gr. xv. every four hours, in a little peppermint water, to produce the best results. (From author's abstract of his M.D. thesis, Medical Chronicle, 1900, p. 429.)

ENDOCARDITIS, MALIGNANT, ANTISTREPTOCOCCUS SERUM IN.

[Dr. J. Michell Clarke records a case in a woman aged 22 years in which recovery followed. She received in all 210 c.cm. of a streptococcus serum obtained from the Jenner Institute. The dose was 10, 15, or 20 c.cm. (once). Dr. Clarke concludes thus :] Since recovery from ulcerative endocarditis is very rare, it may be objected that this was not a case of that disease, but should rather be considered one of rheumatism with pericarditis. But in favour of the former diagnosis are (1) the presence of a chronic valvular lesion on which an infective process is apt to graft itself ; (2) the fact that the illness did not yield to the several salicylic compounds which were tried in full doses without effect ; (3) the occurrence of a pulmonary infarct ; and (4) the steady progress of the patient from bad to worse until treatment by serum was begun, which treatment, again, would have had no influence on acute rheumatism. (The Lancet, July 21, 1900.)

EXERCISES IN HEART DISEASE IN CHILDREN.

Dr. J. Madison Taylor, of Philadelphia, said that in carefully selected instances, the use of regulated activities afforded much relief to many of the distressing symptoms which accompanied and followed disordered conditions of the heart. The term "exercise," as he employed it, should be clearly kept in mind as being a normal use of the bodily parts—not merely of the muscular system, as it was usually understood, but particularly the inter-relation of the viscera and their mutual co-operation. The first and most important item was that the individual should learn to sit, stand, and move in proper attitudes, for only thus could this symmetrical activity of the various parts be maintained. The next was to secure and practice full flexibility of the movable joints and skeletal tissues. An invaluable form of exercise was the act of breathing correctly, which should be taught, enforced, and practised. After outlining certain forms of exercise more fully, Dr. Taylor related his experience in adapting these measures to children, showing what remarkable results were sometimes brought about by the movements which would seem to be of the simplest sort. Among these he mentioned readjustment of the muscles of the trunk and limbs, also stretching, both active and passive, and the cautious use of massage and baths. Most of the movements should be begun in the recumbent posture, and all should be followed by long periods of rest, lying down. Each individual case must be carefully studied, and the rules governing it should be formulated from watchful experience. (Medical Record, June 2, 1900.)

HEART DISEASE, ANTECEDENTS OF ORGANIC.

Dr. Frederick A. Packard, of Philadelphia, said that in childhood the occurrence of endocarditis or of myocardial changes giving rise to cardiac signs must be attributed to occurrence of infection. Under the heading of infection should be considered not only such diseases as are accompanied by a classical symptomatology and therefore designated by a special name, but also the minor affections which are so frequent in childhood. The author has elsewhere shown that angina can readily be followed by endocarditis, and other minor and frequent local lesions may be followed by valvular disease of the heart. Ordinary colds, gastro-enteric disorders, &c., may possibly give rise to heart complications if the germ is sufficiently virulent. The author studied 75 histories of children with endocarditis, taking them in the order in which they were recorded in the books of the hospital, in order to ascertain the antecedent infection in each case. He also analysed an equal number of control cases with the same infections who had no heart lesions. If the small series of control cases can be taken as a guide, measles, varicella, whooping-cough, and typhoid fever have little or no influence in the production of endocarditis. We must therefore attribute many of the cases of heart disease to the slight infections, such as coryza, various skin diseases, affections of the throat, nose, and gastro-intestinal tract. In conclusion, the speaker emphasised the necessity of careful examination of the heart in slight infections. (Pediatrics, October 15, 1900.)

HEART FAILURE.

Professor Hare says that the various causes of failure of the heart may be considered under five headings, viz.: (1) Changes due to sudden cardiac stress; (2) changes due to valvular lesions producing gradual cardiac stress; (3) changes in the blood-vessels producing cardiac stress; (4) changes in the blood itself whereby the heart fails; (5) changes in the heart muscle of a degenerative character produced by toxic agents and senility. There can be no doubt that changes in the heart muscle frequently follow sudden strain, and they occur oftener than is generally thought. That the valves often suffer damage at the same time, and that the results which follow may be immediate and remote in onset, are also a fact. (The Therapeutic Gazette, November 15, 1900.)

HYDROTHORAX, RIGHT-SIDED, IN FAILING HEART.

In cases of failure of the circulation supervening sufficiently slowly, dropsy is generally supposed first to show itself in the feet, the influence of gravitation being regarded as a cause.

I have many times discovered a large pleural effusion in the right side of the thorax in cases in which œdema of the feet and legs has either been altogether absent or has been quite insignificant. It may be well to examine this statement further, and endeavour to ascertain its pathology. My supposition is that the rigidity of the thorax and its great capacity, together with the large size and weight of the liver, have to do with the determination of dropsy to the lower half of the right side of the chest. At any rate, I am certain that we ought to pay more attention to this region in many cases of loss of compensation from heart disease. Fluid may exist there when it is least suspected, and I think the liver has sometimes been supposed to be larger than it really is. The fluid may be the more readily overlooked because of the absence of physical signs of hydrothorax on the left side. (From Dr. Angel Money's paper in the Australasian Medical Gazette, May 21, 1900.)

MURMURS AND PROGNOSIS.

Dr. J. Morrissey, of New York, said that murmurs do not invariably mean endocarditis. The prognosis based simply on a murmur is utterly unjustifiable. It has been well said that, with an apex beat in the normal situation and regular in rhythm, the ausculatory phenomena may be practically disregarded. It must not be forgotten, especially, that a presystolic murmur does not always indicate the most serious of all lesions, namely, a mitral stenosis. A so-called musical apex murmur has no special significance in prognosis, as it indicates nothing more than the passage of a stream of blood through a small aperture in the segment of the valve. As regards longevity, aortic stenosis is a favourable lesion, and Dr. Morrissey differs from authors who state that it appears for the most part after middle life. It is often found during that period when a man should be at the highest point of physical capacity—between 30 and 40. It is frequently present, it is true, as a part of general decay, as a consequence of atheromatous changes in the vascular system. But it is more frequently present than has been hitherto suspected, without necessarily involving such pathological manifestations. It is important not to alarm a young man by the diagnosis heart-disease, because some hypertrophy of the heart is discovered. These athletic hearts may occur in the midst of perfect health, and yet life be embittered by the suspicion of heart-disease aroused by the injudiciousness of an attending physician. Patients should be told to return for further examination when the mind cannot be thoroughly made up as to what condition is present. An interval of a very short time may cause the disappearance of apparently significant symptoms. (Medical News, June 30, 1900.)

MYOCARDITIS IN CONGENITAL SYPHILIS.

It is not as yet sufficiently well known that congenital syphilis may produce grave vascular disease in children. G. Berghinz records in the *Gazetta degli Ospedale*, of June 24, two interesting cases which throw a light on the arterial and vascular lesions which may be produced in infants, and which may result in death in the midst of apparent health. One case is that of an infant 18 months old who, while in apparent good health, suddenly developed a paroxysmal dyspnœa with cough and intense cyanosis, symptoms which possibly pointed to œdema of the lungs. There were no symptoms, however, of fever, renal disease, epilepsy, laryngeal spasm, or status thymicus, and the case ended fatally. The post-mortem examination disclosed syphilitic vascular lesions of a characteristic sort (arterio-sclerosis), such as occur in the subjects of congenital syphilis, and affecting especially the myocardium. No syphilitic history was ascertained in the parents ; but in the second case in which the same group of symptoms occurred in a child and ended fatally inquiry revealed an undoubted syphilitic history in the child's father. Berghinz refers also to an article in the *Centralblatt für Kinderheilkunde* for June, containing a summary of the post-mortem appearances in 22 cases of hereditary syphilis, in which it appeared that syphilis affected the ganglia of the heart and gave rise to a proliferation of the peri-vascular connective tissue of the blood-vessels in the cardiac walls, which eventually resulted in arterio-sclerosis and death. It is clear, therefore, that arterial disease due to congenital syphilis may, when it affects the coronary arteries and nutrient vessels of the heart, result in rapid and sudden death when symptoms of dyspnœa and cyanosis supervene in a child otherwise apparently healthy. It is also interesting to note that many forms of cerebral palsy (hemiplegia and monoplegia) may likewise be the outcome of cerebral arterio-sclerosis when the latter occurs in the fœtus in utero or in infancy, the results appearing as various forms of paralytic idiocy and imbecility. (Leaderette in The Lancet, August 25, 1900.)

PAROXYSMAL TACHYCARDIA.

[Dr. Joseph Patton relates some cases, and makes the following remarks on treatment :] The diet and exercise should be adjusted as in other cardiopathies. Eccentric sources of irritation should be searched for, especially in the intestinal tract. Auto-toxic conditions should be avoided. During the attacks, if dilatation of the heart is increasing, digitalis should be given cautiously. As a rule, it does not influence the pulse-rate for the better, and its utility is doubtful. Stimulation of the vagi by pressure or electricity to their cervical portion is recommended, but has utterly failed at my hands. Compression of the chest as recommended by Rosenfeld gave the same result. It may be practised by the patient, who fixes the feet against the bottom of the bed, applies his arms firmly to the sides of the chest and the forearms to the lower anterior portion of the chest wall ; inspires deeply, fixes the glottis, and makes strong expiratory efforts while pressing firmly against the chest with his arms. Massage of the heart through the fourth and fifth interspaces seemed to me to increase the force of the heart's action, but not to cause any change in the rate. Ice-bags to the præcordium are recommended, but I have seen no benefit from their use. In one case regulation of the diet, intestinal antisepsis and sodium bromide seemed to have a temporary beneficial effect. The attacks themselves were not affected in the least by any means employed. Patients with arterio-sclerosis should be kept on moderate, continuous dosage of strychnia and sodium iodid, or, possibly, nitrite of sodium, in order that the blood-supply to the heart muscle should be favoured as much as possible. Every means should be adopted which is calculated to produce or maintain a better nutritive condition of the myocardium. (Journal of American Medical Association, July 7, 1900.)

PERICARDIAL EFFUSIONS.

The following are Dr. C. B. Porter's conclusions :—(1) Pericardotomy is indicated in all cases of suppurative pericarditis. (2) Because of the uncertain and varying relations of the pleura, and because of the anterior position of the heart, whenever the pericardial sac is distended by fluid, aspiration of the pericardium is a more dangerous procedure than open incision, when done by skilled hands. (3) Incisions of the pericardium can be done quickly and safely by resection of the fifth costal cartilage, and in many cases under local anæsthesia. (4) In many cases of serous effusion, open incision without puncture will offer less risk and speedier cure than aspiration. (5) The method and detailed technique of the writer, proposed in 1897, have been followed out by the majority of recent operators. (Boston Medical and Surgical Journal, October 18, 1900.)

REPOSE AND MOVEMENT IN CARDIAC AFFECTIONS.

Exercise is said by Dr. Vaquez (*La Presse Médicale*, May 23, 1900) to be useful in certain cases of cardiac disease, not in all. Among the latter class of cases must be placed functional affections of the heart, palpitation, and tachycardia. Acute cases of endocarditis must of course be treated by rest, and so must some other cases of acute heart disease ; but in certain cases of arterio-sclerosis the author lays stress on the favourable results he has obtained by exercise. Certain contra-indications are also met with in these cases, and two prominent ones must be remembered : excessive arterial tension, and albuminuria with renal insufficiency. (Dr. Bunch's abstract in Treatment, October, 1900.)

STRYCHNINE IN CARDIAC DISEASE OF CHILDREN.

It goes without saying that in many instances of collapse or faintness, strychnine may be employed as a whip to urge on the circulatory apparatus to renewed endeavour until better and more constantly acting circulatory stimulants can be employed. But it ought not to be used day after day as a heart tonic ; if it is so used, it produces a condition of marked nervous irritability, increases the pulse-rate, and produces a fine, wiry pulse which is distinctly alarming, and which entirely disappears as soon as the drug is stopped. Of course, the same remarks hold true in regard to the use of nux vomica. We do not wish to be understood as stating that either strychnine or nux vomica ought never to be employed in heart disease in childhood. Our object is to point out that they should not be used as first-rate cardiac stimulants over a long period of time. They may be employed in very small doses as slight nervous stimulants, or for the purpose of aiding the digestion, as may any bitter tonic which also slightly stimulates the nervous system. (From a leading article in the Therapeutic Gazette, June 15, 1900.)

SYPHILIS AND CARDIAC AND AORTIC DISEASE.

Duguy, in an article on the heart and aorta in syphilitic subjects *(Journal de Médecine*, July 25, 1900), maintains that congenital syphilis plays an important rôle in lesions of the heart and aorta. Myocarditis, endo- and pericarditis, aortitis, and aneurysms are familiar sequels of acquired syphilis ; so also congenital syphilis leaves its imprint on the heart and aorta in three chief forms :—(1) Syphilitic myocarditis and arteritis ; (2) degenerations which, though not syphilitic, are due to the poison of syphilis ; (3) developmental defects in the heart and its valves. Duguy assigns many cases of mitral obstruction to this last group, and reports several cases in which the condition was associated with other malformations. Congenital syphilis not only handicaps the child with defective power of development, but also provides an open portal for secondary infections—

such as bronchitis, otorrhœa, rhinitis, and the like—that pave the way for sub-acute or chronic endocarditis and aortitis. In many cases the influence is operative during intrauterine life. Duguy holds that parental syphilis should always be kept in mind as a possible cause of cardio-aortic lesions in childhood. (From Dr. Morrison's periscope in Practitioner, November, 1900.)

Affections of the Respiratory System.

EMPYEMA, TREATMENT OF.

When we review the length of time required to complete the cure of these thirty patients, one naturally asks, whether any better method than those adopted can be devised by which the retracted and adherent lung may be released and allowed to fill the pleural sac. We think yet earlier recognition of an empyema is the first step, then a prompt evacuation of the pus seems indicated. Theoretically, the use of the valvular drainage tube that keeps the pleura a closed sac, so far as atmospheric pressure is concerned, appears to one as a means of helping toward greater lung expansion. Nicholas Senn suggests aspirating the chest as a means of securing pulmonary expansion, a day or two before the operation, which admits air. Can not something be done in these cases where adhesions are firm and the lung retracted? Perhaps Delorme's operation or some other new operation for breaking down the pleural adhesions, and stripping the lung of its contracting fibrous covering, may give more satisfactory results. (From Dr. W. F. Hamilton's paper in the Montreal Medical Journal, October, 1900.)

GANGRENE OF LUNG.

Professor Peter, in his masterly lectures in *L'Hôpital Necker* in 1890, tells that he has seen seven cases of pulmonary gangrene treated successfully in the Rothschild Hospital by Dr. Weill, with injections of guaiacol. The little patient under notice was submitted to the following treatment:—(1) Every day an injection by a Pravaz was given in the deep tissues of lower border of the gluteus major of the following mixture: Guaiacol, 10 grammes; sweet oil of almonds, 10 grammes; hydrochlorate of cocaine, 0·20 centigrammes. (2) Every evening she had a small nutrient injection of an ounce of warmed milk with twenty drops of the guaiacol solution as above, and from six to eight drops of the laudanum of Sydenham. This nutritive injection was preceded by an aperient clyster of 500 grammes of a tepid three per cent. solution of boric acid. (3) Every day some portion of the chest was painted with the guaiacol solution. Beginning by painting from two to twelve centimetres of the right sub-clavicular region, the following day the left sub-clavicular region was painted, then the right axillary region, and then the left axillary region. Each part when painted was covered by a four plyfold of gauze, over this a little pad of cotton wool, and a light bandage. (4) On the parts not bound up, and over the limbs, twice daily, a tepid alcoholic solution of camphor was lightly rubbed on with a soft napkin. To control the vomiting that was so troublesome in the earlier days of the sickness, and at the same time to nourish the patient, a tablespoonful of milk *kephyr* was given every half hour, replaced afterwards by a mixture of sterilised milk and Vichy or seltzer water, according to circumstances. After four days the temperature became normal, and remained so, and eventually the child recovered. (From Dr. G. H. Foy's notes in the Medical Press and Circular, October 17, 1900.)

LARYNGITIS AND ASTHMA.

Glasgow, in the *New York Medical Journal* for August 25, 1900, calls attention to the part played by laryngitis in causing the asthmatic paroxysm. Asthma is a vaso-motor neurosis provoked by peripheral irritation of the sympathetic. This irritation generally lies in the upper portion of the respiratory tract. The most sensitive areas are the posterior surface of the turbinates, the interarytenoid commissure, the posterior surface of the trachea, and the membrane at the bifurcation of the trachea. Irritation of any of these spots will cause reflex cough and the symptoms of asthma. The interarytenoid region is, the author thinks, the most frequent site of irritation. This may be due to a primary laryngitis, irrespective of any nasal pathological condition. Four cases are given to prove the author's view, and he says he could multiply them. The following is a brief résumé of these cases : (1) Laryngo-bronchitis, with normal nasal chambers. The asthma disappeared after local treatment and constitutional remedies. (2) Laryngeal lesion, with chronic nasal catarrh. Permanent relief by local laryngeal treatment and constitutional remedies. No nasal or post-nasal treatment. (3 and 4) Laryngeal lesion and nasal polypi. Asthma relieved by laryngeal treatment without treating polypi. In three, asthma returned, but disappeared on removing polypi. From his experience, the author considers constitutional remedies are always necessary to permanent relief. Also, asthma can never be produced by any nasal or laryngeal lesion unless the individual has acquired or inherited the asthmatic habit or condition. The local applications used were carbolised iodine, and the constitutional remedies, iodide of potassium, antipyrin, stramonium, codeine, and nitroglycerine. (From Mr. Yearsley's abstract in Treatment, October, 1900.)

LARYNX, TOXIC PARALYSES OF.

(From abstract of Dr. Watson Williams' paper read before the British Medical Association.) There were two distinct possible methods by which the laryngeal paralysis might arise :—(1) From the direct application of the toxic substance to the larynx; and (2) from the selective affinity of various poisons in the blood for the laryngeal nerves or their bulbar nuclei. It seemed probable that the majority of cases of toxic laryngeal paralyses had their foundation in peripheral neuritis. Thus, excluding the purely myopathic paralyses, toxic paralyses might be divided into two distinct pathogenic groups :—(1) Infective neuritis, commonly occurring in the course of diphtheria, and less frequently observed in typhoid fever, typhus fever, scarlet fever, morbilli, influenza, rheumatism, tuberculosis, syphilis, and pneumonia. (2) Toxic neuritis, most frequently due to lead poisoning; but also said to have occurred in poisoning by arsenic, copper, antimony, phosphorus, alcohol, atropine, and morphine. The treatment consisted in : (*a*) General treatment of the infective disease, and measures directed to the removal of organic or metallic poisons in the circulation and tissues ; (*b*) intralaryngeal application of the faradaic or galvanic current, combined with strychnine in large doses by the mouth or into the affected muscles when feasible ; and (*c*) the relief of dyspnœa and threatened asphyxia by intubation or tracheotomy. (The Lancet, August 18, 1900.)

LUNG, HEMORRHAGIC INFARCTION OF.

(From Dr. Merklen's remarks.) Pulmonary apoplexy, whether it be the consequence of an embolus or a thrombus, is often the first manifestation of a cardic affection, which, up to then well compensated, had passed unperceived. It is signalled by the sudden appearance of pain in the side, accompanied with more or less intense dyspnœa. In general no fever is present, while percussion and auscultation reveal nothing abnormal. But a few hours after the first symptoms, or one or two days afterwards, dulness is found over the base of the right lung, with exaggeration of the thoracic vibrations, and in a few days more the patient spits blood, and this hæmoptysis may be regarded as the most positive sign of the affection. It is frequently the only indication met with in those patients who have suffered from asystole, with its concomitants, dyspnœa, and œdematous congestion of the base of the lungs. (Medical Press and Circular, October 24, 1900.)

PHTHISIS, HOME TREATMENT OF.

Granted that the patient shall receive the air fresh from outdoors, how much shall we give him? To begin with, about twenty-four hours' worth every day. The patient must live out of doors. In winter he does this by being warmly muffled up in fur and blankets, with hands and feet well covered and sitting or lying in the open air in the sunshine if possible; protected from the wind, if need be, by a small canvas screen. If there is rain or snow, a glass-encased veranda will supply the place of the solarium of the sanatorium; or a canvas cover to the veranda, leaving an opening for free access of air, will answer very well. The patient thus rests out-of-doors. In summer the shady spots in the open will naturally be sought. At night the windows of the bedroom are kept wide open, winter and summer. The excessive cold of the winter night may be tempered by a grate fire in the open hearth, but fresh air must enter freely from without. Next to good air we place good food. Of this, too, there must be an abundance. It will be the physician's duty to crowd the food as he has crowded the air; and it will require more tact and persuasion. (From Dr. Eichberg's paper in the Medical News, October 6, 1900.)

PHTHISIS, PNEUMONIC COMPLICATIONS OF.

(From Dr. W. Ophüls' very interesting and suggestive paper.) I myself have examined 26 cavities in 13 cases. I found a pure culture of tubercle bacilli in seven of these 26 cavities; the others contained a mixture of tubercle bacilli and other bacteria. The species encountered were the following: streptococcus pyogenes in one case; pseudo-diphtheria bacilli in five cases; pneumococci in six cases; pneumococci and pseudo-diphtheria bacilli in four cases; staphylococci and streptococci in two cases; pneumococci and staphylococci in one case. The infectious material is carried from the cavities to other parts of the lung by what is commonly called aspiration. The process in reality often is not so much of an aspiration as a gravitating downward of the infectious material in the bronchial tubes. Whether a pneumonic process is set up by such an aspiration depends largely on the number, the variety, and the virulence of the bacteria present in the material aspirated.

I am able to confirm the statement made first by Orth, and later corroborated by Fränkel and Troje, namely, that there is one form of pneumonic process met with in tuberculous lungs which seems to be produced by a simple infection with tubercle bacilli (tuberculous pneumonias). At least when we examine these pneumonic patches after the death of the individual we do not encounter any other bacteria in them. In other forms of pneumonic complications we have mixed infections from the beginning. In these cases other pathogenic bacteria are carried simultaneously with the tubercle bacilli into the healthy parts of the lungs. Here also we can distinguish between more acute and more chronic forms. The acute forms present to the naked eye entirely the aspect of ordinary broncho-pneumonias, and do not differ materially from them in their microscopical structure. (American Journal of the Medical Sciences, July, 1900.)

PHTHISIS, SANATORIUM TREATMENT OF.

Dr. Jane Walker (London) gave an account at the British Medical Association Meeting, 1900, of sanatorium treatment in England and Wales. The factor of climate was not now so much insisted on. They might range climates in an ascending degree of excellency, as damp and hot, damp and cold, dry and hot, and dry and cold. Overcrowding would neutralise the effect of the best climate. After all, treatment was more important than climate. This was not sufficiently understood. Air was not enough, feeding was not enough. Careful regulation of exercise, rest, and particularly medical care, must be added. Early improvement should lead to greater care, and patients should not be allowed to leave off treatment or go to their homes for some time after apparent recovery. As to the determination of the duration of the necessary stay in a sanatorium, the standard of a patient's health was as important as the state of his respiratory organs. Routine examination of chests was too much neglected. In prognosis the 'rate of improvement was the most valuable factor. The public had been led to expect too much from the open-air treatment of phthisis from articles in the public reviews. She hoped in time to see maternity sanatoria for consumptive pregnant women, school sanatoria, and sanatoria as preventative institutions for the children of consumptive parents. (From The Lancet, August 18, 1900.)

PHTHISIS: AFTER-SANATORIUM TREATMENT.

(From Dr. Woodcock's paper.) I hope we shall have, as the outcome of sanatorium treatment the formation of hygienic colonies to allow of the transference of the cured phthisicals from the town to the country. Every large industrial sanatorium should supply a colony with recruits. A sanatorium containing 100 consumptives would, according to German statistics, cure absolutely ten to twelve of the 100 patients, that is, to turn out 10 or 12 per cent. of the patients showing no clinical signs of disease, and also almost cure another 20 per cent. of its patients. There is no question of the advisability of providing healthy out-door work for all of them, and certainly there could be no serious objection from any quarter to the planting of the absolutely cured among the rural life of an English village. The only difficulty is the finding of suitable employment where there would be anything like a living wage. (British Medical Journal, October 13, 1900.)

PHTHISIS, THE RÔLE OF DRUGS IN.

Dr. S. Solis-Cohen, of Philadelphia, said that tuberculosis was a curable disease. Drugs played a secondary part in its management. In the pre-tuberculous stage nitroglycerine was a valuable agent, causing the blood to penetrate to the utmost recesses of the lungs, and thus to favour nutrition. All the tonics and good hygiene were to be employed during this stage. The building-up of nutrition was the broad principle of cure, and should be pursued throughout the whole course of the disease. Digitalis was very valuable in cases in childhood, and also in the florid or galloping variety, and in the broncho-pneumonias occurring in chronic tuberculosis. Iodine and iodoform were the most useful drugs to influence the local condition. He began with doses of iodoform, gr. ss. three times a day in pill form. This was gradually increased until in three months the patient was taking gr. v. t.i..d. As an inhalation both the iodide of ethyl and myrtol had given very satisfactory results. Myrtol, if given internally, was one of the best agents for the control of the bronchial inflammatory conditions accompanying the disease. Formaldehyde by inhalation acted well in the laryngeal form. Calcium chloride given in dose of gr. xv. every two hours continuously for three or four days would stop persistent hæmoptysis. It should not be continued for more than five days. Hydrastine hydrochlorate was also useful. Ergot was useless for this purpose. Camphoric acid and atropine usually would control the night sweats. (Medical Record, June 16, 1900.)

PLEURAL EFFUSION, THE DULNESS IN.

(By Graham Steell: *The Physical Signs of Pulmonary Disease*, 1900: second edition.) Absolute dulness at the lower part of the pleura is usually the first percussion change detected in cases of pleuritic effusion. The resonance of the lung above effusion is at first unaltered, and it is only when the effusion mounts up that the resonance begins to acquire tympanitic quality in the amphoric and tubular varieties. The transition from resonance to dulness is less abrupt behind than in front, due to the chest-wall. Close to the spine there is a more or less triangular area in which there is a degree of resonance. This is observed most easily when the quantity of effusion is small or moderate. In fact, the upper limit of dulness assumes a curve, being highest laterally and descending anteriorly and posteriorly. The dull and clear areas do not undergo material alteration on varying the posture of the patient. (Medical Chronicle, September, 1900.)

PNEUMONIA, PREVENTION OF CARDIAC FAILURE IN

What are the causes of cardiac failure in cases of pneumonia? A certain number of hearts have such degenerate coronary vessels and muscle walls that they fail under the slightest stress, or cease to beat under any marked inhibition. We are never likely to be able to prevent such deaths unless by prophylactic measures. The large majority of hearts, however, make a desperate struggle for continued existence; the failure takes place from (*a*) granular degeneration of the muscular fibre induced by continued high temperature and by toxæmia; (*b*) low arterial pressure, which prevents proper nutrition of the heart and produces a syncopal condition; (*c*) the interference with the proper action of the respiratory pump from any cause leads to overloading and ultimate failure of the right side of the heart. Our indications for treatment, therefore, are (*a*) to lower the temperature and control the inflammatory process at the earliest possible period before stagnation of the blood and hepatisation have taken place, and thus preserve, as far as possible, the integrity of the respiratory apparatus; (*b*) to maintain fair systematic blood pressure; and (*c*) to keep the respiratory pump acting by lessening the frequency and increasing the depth of the respirations. (From Dr. James Barr's paper in the British Medical Journal, June 16, 1900.)

POTASSIUM IODIDE AND THE UPPER RESPIRATORY TRACT.

The tendency of potassium iodide to produce untoward symptoms of the respiratory tract is shown by the frequency of laryngitis and a low grade of œdema in a considerable number of patients to whom the drug is administered. The severe form of glottic œdema occurs without apparent reason, the general condition of the patient having little or no influence in its production, for it occurs in both the weak and robust without selection. Usually œdema is not observed following large doses or after long medication, but it sometimes takes place after small doses, and is the only symptom, none of the usual phenomena of iodism being present at the same time. The œdma may be so extensive as to call for tracheotomy or sudden death may even result. It may develop quite rapidly, and may as suddenly disappear. Groenouw reports a case that developed following a dose of only three grains of the drug, and remarks that it may occur during the early administration of the drug, it being apparent that the longer the salt is used the less is the danger of œdema. An interesting case is reported by Heymann in which œdema developed in a syphilitic several days after the potassium iodide had been stopped; eight days later it disappeared. (From Dr. Somer's paper in the Medical News, September 29, 1900.)

TUBERCULOSIS, PULMONARY, IN YOUNG INFANTS.

In a review of an article by Bertherand, the *Gazette des Hôpitaux* calls attention to the peculiar characteristics presented by pulmonary tuberculosis in infancy. Physical signs are obscure. These signs have a minimum of value in the typhoid form of acute phthisis, which is characterised by sudden onset, irregular fever, and extreme dyspnœa. In the catarrhal form physical signs are more marked; all over the chest disseminated râles and noisy breathing are heard. Often the lung symptoms are localised on one side, and this has some value in favour of a diagnosis of tuberculosis. In caseous broncho-pneumonia pulmonary symptoms are most marked. This form may begin suddenly as a pneumonia or an acute broncho-pneumonia, and the physical signs are those usually observed in those affections. Temperature is less elevated than in simple broncho-pneumonia, and is often out of proportion to the frequency of the pulse. Catarrhal symptoms are perhaps less marked than in broncho-pneumonia. Hæmoptysis is very rare, and dyspnœa often marked. (From leading article in Pediatrics, July 15, 1900.)

Affections of the Digestive System.

APPENDIX VERMIFORMIS, REMOVAL OF.

Dr. A. A. Warden thus describes Doyen's method :—The little mesentery of the appendix is first ligatured with a small silk ligature to free the appendix literally. Then (1) the base of the appendix is gently crushed with Doyen's small clamp. Almost any forceps suffices for this purpose if strong enough and broad enough to completely occlude the appendix for a breadth of, say, a quarter of an inch ; (2) a fine silk ligature is thrown round the base of the appendix in the furrow left by the clamp ; (3) the appendix is then removed by the thermo-cautery cutting close to the ligature ; (4) a purse suture is then made in the serous covering of the cæcum close round the base of the appendix (as this purse stitch is drawn tight the little stump is invaginated so that all is completely closed) ; and (5) for safety a second fine silk purse stitch is made and the little pucker of the first stitch is similarly invaginated and the ligature is gently tightened. The result technically is perfect, and certainly this is the most aseptic method of removing the appendix. Doyen's method I consider to be the best because I see no valid objections to be urged against it. It is simple and rapid ; the appendix is not opened, so there is no possibility of infection of the peritoneum by escape of bowel contents ; and lastly, by invagination of the stump, in the event of further infection and suppuration the pus is bound to discharge into the lumen of the bowel and to be evacuated naturally per anum. (The Lancet, August 4, 1900.)

DIARRHŒAS, OPIUM IN THE SUMMER.

In the *International Medical Magazine* for July, 1900, Dr. Floyd M. Crandall, of New York, contributes a paper on this subject. He contends that the exclusion of opium from the treatment of diarrhœa in children is too sweeping, and is based upon misapprehension of its proper use. The conclusions he arrives at are summed up thus : it is contra-indicated (1) in the first stages of acute diarrhœa, before the intestinal canal has been freed from decomposing matter ; (2) when the passages are infrequent and of bad odour ; (3) when there is high temperature or when cerebral symptoms are present ; (4) when its use is followed by elevation of temperature, or the passages become more offensive. It is indicated (1) when the passages are very frequent with pain; (2) when the passages are excessively frequent, large and watery; (3) in dysenteric diarrhœa preceded by castor oil or a saline; (4) in late stages with small, frequent, nagging passages; (5) when the passages consist largely of undigested food, and the bowels act as soon as food is taken into the stomach. The writer assigns much importance to the method of administration. It should be given alone and not in a mixture. The dose should not be repeated till the effects of the first dose have passed away, and always at long intervals. The preparations he recommends for young children are paregoric and the deodorised tincture. The former he gives in doses of ♏ ii. for three months, ♏ viii. for one year, ♏ xxx. for five years. When morphia is given hypodermically the dose for young children should not exceed $\frac{1}{200}$ of a grain. (Abstract in Quarterly Medical Journal, November, 1900.)

DYSPEPSIA, TREATMENT OF.

Sir T. Lauder Brunton, in the *Clinical Journal*, gives some practical rules for the treatment of dyspepsia. Most of these rules are well known; for instance, he emphasises the recommendations that meat should be chewed frequently (32 times, once for each tooth) before being swallowed, and that fluids should be taken towards the end of a meal, and then only in limited quantity. He considers, however, that the taking of fluids interferes less with the digestion of farinaceous food than of proteid food. A more novel suggestion of the author is that each meal should consist exclusively of one kind of food; for instance, at breakfast and tea the food should be exclusively farinaceous, while at lunch and dinner it should be exclusively proteid. By this arrangement the digestive organs are taxed in one direction at a time, and Sir T. Lauder Brunton finds that many cases of dyspepsia can be cured in this manner. Another useful suggestion is that fluids (in the form of hot water) should be taken, not with the meals, but between the meals, *i.e.*, about three hours after each principal meal, the object being to wash into the duodenum the remains of one meal before the next meal is introduced. Another useful hint concerns the administration of bitters. If the stomach digestion is merely weak, it is better to give a bitter such as Calumba, which contains no tannin; but if any catarrh of the stomach be present, it is better to prescribe one such as gentian, which contains tannin, and will, therefore, act as an astringent on the swollen cells of the mucous membrane. (Dr. Dalton's abstract in the Medical Times and Hospital Gazette, November 10, 1900.)

GASTRIC BOUNDARIES, QUEIROLO'S METHOD FOR DETERMINING.

For the accurate projection of the stomach boundaries on the abdominal surface it is usually considered necessary to inflate the stomach either with CO_2 gas or by direct insufflation of air. By means of a specially devised instrument an attempt has been made to secure greater accuracy without resorting to these troublesome manœuvres, and Edel and Volhard (*Deutsche med. Wochenschr.*, August 30, 1900) have conducted a series of comparative observations in order to determine the relative merits of the two methods. The apparatus consists of an ordinary stomach-tube, whose lower end bears a small balloon, while at the other extremity are two small tubes, one connecting with a Marey registering drum, while the other is free and serves for the inflation of the balloon. After introduction this latter is moderately distended with air, and, on percussion of the abdomen, as soon as the gastric limits are reached, an impulse is transmitted to the index of the registering apparatus. For the proper working of the contrivance it is essential that a certain amount of air tension be present within the stomach, and then percussion over it causes a sufficient compression of the bulb to affect the telltale. It was found that the method was accurate and gave clear-cut results, but that it possessed no appreciable advantages over the older means of diagnosis. (Medical News, September, 1900.)

GASTRIC ULCER, PERFORATED.

Let us look for a moment at the causes of death in the reported operated cases. The first cause of failure in saving the patient has been failure in finding the perforation. In the first series of 78 cases reported by Weir and Foote, the perforation was not found in sixteen. In the second series of 78 cases of Keen and Tinker, the perforation was not found in nine; and in Tinker's series of 76 cases, it was not found in four. This defect in treatment thus is gradually disappearing. Another cause of failure is the non-recognition of other perforations or ulcers likely to perforate later on. Hemorrhage has occasionally been the cause of death. This may perhaps be avoided by not attempting to resect the edges of the ulcer, by having due regard for neighbouring vessels, and by carefully removing the layers of lymph found around the margins of the opening, so that sound tissue may receive the sutures. Pneumonia and pleurisy have caused death in a few cases. Peritonitis and toxæmia have been the cause of failure in many cases. This is best prevented by early operation. (From Dr. G. E. Armstrong's paper in the Montreal Medical Journal, August, 1900.)

HÆMATEMESIS, GELATINE IN.

We have already called attention in previous issues of the *Therapeutic Gazette*, to the local and internal use of gelatine for the purpose of increasing the coagulability of the blood, and so checking hemorrhages. The latest use of this substance with which we are acquainted, for the purpose of checking hemorrhage, is its employment by Pawlawski, who states that he has given gelatine solutions by the stomach, in cases of hemorrhage from ulcer of that organ, with very great success. The gelatine used is the ordinary commercial gelatine used as food. He asserts that it not only checks the hemorrhage, but tends to quiet the stomach, and relieves vomiting. (Therapeutic Gazette, July 15, 1900.)

HÆMATEMESIS, TREATMENT OF.

Samuel Fenwick and Soltau Fenwick (*Ulcer of the Stomach and Duodenum*, London, 1900) in discussing the treatment of hemorrhage in gastric ulcer, point out the danger of the injudicious employment of nutrient enemata over long periods of time. In cases of chronic ulcer where the eroded vessel may be closed by soft and easily displaced clot, the stomach has to be kept at rest, and nutrition may be maintained by suitable enemata for ten days or a fortnight with advantage. In the acute variety of the disease such a course is seldom necessary, and may, if persisted in, lead to death by starvation. In all cases the patient must be confined to bed. For moderate hemorrhage in acute gastric ulcer, the safest plan is to ensure absolute rest of the stomach for 36 to 48 hours, when, if hemorrhage has not recurred, two to four ounces of peptonised milk may be given by the mouth every two hours, and a nutrient enema administered twice or thrice a day. On the fifth day rectal alimentation can be discontinued, and the amount of milk increased to six ounces. The usual diet suitable to the disease may be resumed on the seventh day. In the majority of cases this treatment suffices without resort to drugs. The bowels must be relieved solely by enemata. Restlessness may be met by small injections of morphia. In cases of severe hemorrhage, the dorsal position must be enforced with the head placed low, and the body lightly covered. An ice bag should be applied over the epigastrium. Internally, turpentine is of use in many cases ; it should be given at once in a dose of ʒi—ʒii as an emulsion, followed in an hour by a further dose of ʒ ss. Slight continuous hemorrhage is often benefited by gallic acid gr. x., with extract of opium gr. ¼ in pill form, or by compound kino powder gr. v. every three hours. Calcium chloride gr. xxx. every two hours is sometimes of value in chronic cases. In severe cases lavage with iced water has been successfully employed, a procedure also advocated by Simpson (*Treatment*, February 22, 1900). When possible an attempt should be made to apply direct pressure upon the upper part of the epigastrium by means of an abdominal tourniquet. The application of elastic ligatures [to compress the veins only] to the extremities is occasionally useful. Threatened syncope may be combated by brandy or ether subcutaneously, or by an enema containing some diffusible stimulant. Transfusion must be resorted to when life is threatened from loss of blood. A safe plan is to transfuse small quantities of 6 per cent. saline solution (6—10 ozs.) at intervals of two to three hours, or to inject it into the cellular tissue of the axillæ, and at the same time to give a warm enema of the same solution. (From Dr. Craven Moore's review of Treatment of Diseases of the Stomach, Medical Chronicle, June, 1900.)

LIVER, FATAL HEMORRHAGE IN CIRRHOSIS OF.

Dr. Preble (*American Journal of the Medical Sciences*, March, 1900, p. 263) bases the following conclusions upon an analysis of 60 cases: (1) Fatal gastro-intestinal hemorrhage is an infrequent, but not rare, complication of cirrhosis of the liver. (2) In most the cirrhosis is atrophic, but it may be hypertrophic. (3) In one-third the first attack is fatal; in two-thirds the hemorrhages continue at intervals over a period varying from a few months to several years. (4) In one-third the diagnosis can be made at or before the first hemorrhage. (5) Œsophageal varices are present in 80 per cent. of the cases, and in more than one-half of this 80 per cent. the varices show macroscopical ruptures, and it is probable that many other ruptures would be found if the varices were tested by injection of air or fluid. (6) Fatal hemorrhages occur in cases which show no œsophageal varices, and they are probably due to the simultaneous rupture of many capillaries of the gastro-intestinal mucous membrane. (7) The hemorrhages in this class are usually preceded by other symptoms of cirrhosis, but the first symptom may be a fatal hemorrhage. (8) In 6 per cent. only of the cases which showed œsophageal varices was the cirrhosis typical—*i.e.*, showed ascites, enlarged spleen, and subcutaneous abdominal varices. (Abstract in Quarterly Medical Journal, November, 1900.)

NOMA, THE TREATMENT OF.

M. Scweitzer (*Vratch*, April 1, 1900, quoted in *Gazette des Hôpitaux*, May 31, 1900) recommends the following treatment of noma. All the sloughing tissues are removed by means of a sharp curette. The ulcerated surface is next washed with boric acid or with permanganate of potassium solution (1:1000 in hot water), and then dusted and rubbed with iodoform powder. A dry dressing is then applied. If it is impossible to remove all the dead tissue with the curette, a dressing of gauze wrung out of a solution of permanganate of potassium is applied instead of the dry dressing. If the necrosis continues on the following days, one repeats the curetting and the dressing. The ulcerated surface is washed twice daily, and the iodoform is applied once daily. The writer saved five children out of six with this method of treatment. (Abstract in Pediatrics, October, 1900, p. 277.)

ŒSOPHAGEAL DIVERTICULUM DIAGNOSED BY X-RAYS.

Victor Blum records (*Wien. klin. Woch.*, March 15, 1900) a case where a diverticulum of the œsophagus was diagnosed after œsophagoscopy had failed. The patient had been subject to obscure symptoms of œsophageal disturbance with eructation of food. A tube filled with mercury and closed at one end was introduced into the œsophagus and arrested in its course before it reached the stomach. X-ray examination then showed the tube lying alongside the spine about ten inches below the level of the teeth in such a fashion that a diverticulum was suggested. A sound filled with bismuth was then introduced with the aid of the fluoroscope and the presence of the diverticulum made certain. On withdrawing the tube and sound it was possible to pass an india-rubber bag, like a toy balloon, filled with a solution of potassium bromide, which is opaque to X-rays, into this diverticulum, and in this way the exact position, form, and size of the latter were ascertained. Blum considers this the best method for actually diagnosing œsophageal diverticula. (British Medical Journal Epitome, June 9, 1900.)

PANCREAS, CARCINOMA OF

Loja, of Pavia (*Centralbl. für Chirurgie*, May 5, 1900), reports eight cases of tumour of the head of the pancreas; the symptoms vary with the seat and stage of the disease. The following are the most reliable for diagnostic purposes :—Obstruction of the common bile-duct (jaundice), obstruction of the pancreatic duct (fatty stools, increased excretion of nitrogen), distension of the gall-bladder, pain, presence of a palpable tumour, symptoms of pyloric or duodenal stenosis, and hemorrhage from the bowel. The author expresses the hope that tumours of the head of the pancreas may be successfully removed by operation. (Abstract in Edinburgh Medical Journal, July, 1900.)

PERFORATION, OPERATION FOR TYPHOID.

(By Drs. G. B. Shattuck, Collins Warren, and Farrar Cobb.) *Conclusions* : The series under review, unfortunately, leaves much to be desired in the way of accurate and carefully reported study of many of the cases in the light of the most recent experience; but from an analysis of the material we can definitely conclude that: (1) In many very sick typhoids, perforation or peritoneal infection cannot be diagnosed until the results are already widespread and of fatal extent. The chances of a fatal issue from an abdominal operation in such cases are overwhelming. (2) In mild typhoids of fair general condition an abdominal operation is readily borne, provided no peritoneal infection is present. (3) A small number of mild typhoids may have sudden perforation with free extravasation. In these the symptoms are fulminant, but localised to a great extent, and in these (4) Operation must be done at once, for general infection may become past relief in from one to five hours, and walling off of the perforation by protecting adhesions is so rare as not to be counted upon. (5) In the majority of mild cases, beginning infection (whether from perforation or not) is marked by comparatively slight symptoms—local pain, tenderness, spasm, and leucocytosis. The severe following symptoms mean general peritonitis. (6) These warning symptoms demand serious consideration and study, but in many cases are either not rightly understood or not acted upon. (7) Complaint of abdominal pain in a case of typhoid should always lead to a suspicion of beginning peritoneal infection. (8) Frequent leucocyte counts are needed in every case of typhoid In the presence of abdominal pain an hourly count is necessary. (9) Pain associated with local tenderness and muscular spasm and a rising white blood count points in most cases to an operation ; in all cases to a surgical consultation. (10) In not a few of this series of cases operation was imperative a varying number of hours before it was done. If it can be appreciated that the severe symptoms more often mean general peritonitis, it must be understood that the milder and earlier symptoms are the important ones. (Boston Medical and Surgical Journal, June 28, 1900.)

PERFORATION, OPERATION FOR TYPHOID.

Kadjam (*Centralblatt für Chirurgie*, No. 16, 1900) reports ten cases of perforating typhoid ulcer treated by operation, with but one recovery. The peritonitis is not always diffuse. The author states that there should be no hurry in operating, it being much better to wait until the shock attending the accident has been combated. (Therapeutic Gazette, July 15, 1900.)

Lower (*Cleveland Medical Gazette*, April, 1900) reports the case of a patient, aged 28 years, who suffered from severe sudden pain the third week of her attack of typhoid fever; with rapid pulse running to 160, no drop of temperature, respirations 32, distension of the abdomen, tenderness, and absence of board-like rigidity. Eighteen hours after perforation the abdomen was opened. Large quantities of fæcal matter were found free in the peritoneal cavity. The ulcer was found 14 inches from the ileocæcal valve, and was closed. The patient lived 60 hours after the operation. (Therapeutic Gazette, June 15, 1900.)

Moyer (*Pennsylvania Medical Journal*, No. 3, 1900) operated on a patient the twenty-first day of his disease, when a painful expression was noted in the man's face. The abdomen was found to be very tympanitic and tender; the liver dulness was greatly lessened; the respirations were 32, the pulse 108, the temperature 100·6° F. Cocaine anæsthesia was used. A brownish-yellow fluid was present in the peritoneal cavity, and a perforation the size of a pin's head was found in the small intestine and closed. The peritoneal cavity was thoroughly flushed with sterile water, and was drained by a rubber tube. Six days later he suffered from severe cough. On the seventh day he had an evening temperature of 97°, and was perfectly comfortable except from his bed-sores. On the eighth day after operation his temperature, pulse, and respiration were normal. (Therapeutic Gazette, October 15, 1900.)

TETANY, GASTRIC.

[Dr. W. N. Soden reports two cases in women aged respectively 23 and 34 years. The first case died and the second recovered.] The first case I look upon as acute paralytic dilatation of the stomach, the cause of which, so far as one is able to assign a cause, was probably exhaustion due to want of nourishment and sleep, together with that consequent on the somewhat prolonged labour, in a woman who had previously suffered considerably with indigestion and flatulence. When one comes to consider the cause of the tetany, as far as I could find, after the necessary reference, it is generally supposed to be due to the irritation of the nerve centres of certain groups of muscles by some unknown poison or toxin produced in the process of fermentation of the contents of the stomach. In the second case, occurring, as it did, in a woman of marked neurotic temperament, it is difficult to tell how far the tetany was merely an hysterical manifestation, and how far it was due to absorption from the stomach, which notwithstanding the vomiting was considerably distended with gas. The vomiting shows that there was no paralysis, and it emptied the stomach of its contents, preventing further absorption of toxins, which would, presumably, if retained have kept up the tetany. (St. Bartholomew's Hospital Journal, October, 1900.)

TEST MEAL, A NEW.

(From Dr. A. E. Austin's paper.) Three meals have been chiefly employed for this purpose. One was proposed by Ewald, another by Riegel, and still another by Klemperer. That of Ewald consists of one to two rolls, which weigh from 35 to 70 grammes, and two glasses of water. For this we have an excellent substitute in the ordinary round cracker, of which two weigh on an average 30 to 31 grammes, or in the soda wafers, four of which weigh on an average 35 grammes. With this meal, the contents should be withdrawn one hour after eating. The meal of Riegel consists of soup, a beefsteak and a roll. It is to be withdrawn three to four hours after eating. Klemperer's meal consists of half a litre of milk and two rolls, to be withdrawn two hours after eating. There are serious objections to all of these : (1) The indefiniteness of the amount of the food elements employed, nitrogen, fat and carbohydrate, and (2) that on account of the lack of fine division, the tube introduced is frequently clogged, which necessitates its removal, its cleansing and reintroduction. The meal employed in these experiments consisted of 2 grammes of dried egg albumen compressed into half-gramme tablets. These are to be taken with two glasses of water, and the contents withdrawn one hour after taking. The nature of the starch digestion cannot be determined from such a meal, but can be as easily determined from the amount of free hydrochloric present, for the organic acids, if present, are seldom in large enough amounts to disturb amylaceous digestion, and combined hydrochloric has no inhibitory action upon this. With this meal the contents never clog the tube, there is always a definite amount taken, and the contents filter much more readily than when vegetable albumen is used. (Boston Medical and Surgical Journal, November 8, 1900.)

THRUSH, TREATMENT OF.

Escherich (*Semaine Médical*, 1900, in *Revue mens. des maladies de l'enfance*, June, 1900, p. 304) makes use of an ingenious device for the treatment of mycotic stomatitis. He directs that a small tampon of sterile cotton be impregnated with about

20 centigrammes of boric acid finely pulverised and mixed with a small quantity of saccharine. The cotton is then enclosed in a little sac of silk or batiste carefully sterilised, and this is given to the infant to suck. Ordinarily the child will continue to suck it on account of the sweet taste imparted by the saccharine. The boric acid is thus slowly dissolved by the saliva, and acts directly and continuously upon the oïdium albicans. A fresh sac is to be used on the following day. The effect of this treatment is said to be rapidly manifest. In recent cases, when the deposit is not very extensive, it disappears entirely within 24 hours, except in the gingivo-buccal sulcus, from which it is removed during the next 24 hours. In the inveterate cases cure requires a somewhat longer time, but may be hastened by mechanical cleansing and lavage of the mouth with appropriate washes. This method of treatment is not of value in moribund cases in which the power of sucking is lost and the saliva is not secreted. (Abstract in American Journal of the Medical Sciences, September, 1900.)

VOMITING, RECURRENT, IN CHILDREN.

[The following is taken from Dr. Crozer Griffith's paper :] Prodromal symptoms of an attack of this cyclic vomiting may be absent, and the child begin to vomit without any evidence of previous illness. In other cases there are prodromes, but these are generally insignificant and indefinite, consisting of malaise, some coating of the tongue, loss of appetite, possibly headache, and some disturbance of the bowels, generally constipation, sometimes slight diarrhœa. These last but a few hours to a day, rarely longer. In one of my cases prodromes lasted a week, and a furred tongue continuing a week was seen in one of Gee's cases. There is, however, never any distinct evidence or history of decided indigestion preceding or in any way connected with the outbreak of an attack. Vomiting is the first and most striking symptom of the attack itself. From the outset it is obstinate and oft-repeated. At first the contents of the stomach are ejected, not, as a rule, showing any evidence of abnormal fermentation. Later the vomited matter consists of watery fluid, with mucus or bile, and sometimes with blood. Sometimes there is also violent unproductive retching. Generally everything put into the stomach is promptly vomited. The vomiting may sometimes cease temporarily and then recommence. Generally it continues very frequent until towards the close of the attack, and then gradually or suddenly ceases. Should an attack have actually commenced the first indication is to open the bowels freely by an injection, or, still better, by saline cathartics or calomel if the child can retain them. But after the first effort it is well to administer nothing whatever by the mouth, whether food or medicine, thus giving the stomach absolute rest. The use of opening enemata should be discontinued and the bowel reserved for small concentrated nutrient enemata and the administration of medicine. Perhaps the best drugs to use in this way are chloral and the bromides in full doses. Morphine hypodermically has certainly done good in some instances. It should certainly be tried early in all bad cases. Stimulants by the rectum and strychnine and digitalis by the skin are to be used as needed. Hypodermoclysis is a treatment for severe cases which seems to offer the hope of benefit. Ice or counter-irritants to the epigastrium may be tried. As the disease advances, and especially if a lull in the vomiting occurs, it is safe again to try to obtain a free action of the bowels by the administration by the mouth of repeated doses of phosphate of soda or Rochelle salts. (American Journal of the Medical Sciences, November, 1900.)

Affections of the Urinary and Generative Systems.

GONORRHŒA TREATED BY MERCUROL.

Mercurol represents a chemical union of mercury with nuclein from yeast, containing about 10 per cent. of metallic mercury; it is a powerful germicide, particularly destructive to pyogenic organisms, and especially to the gonococcus. In a paper read before the New York Academy of Medicine (*Phil. Med. Journ.*, May 19, 1900) Valentine stated that he had used mercurol irrigations in acute gonorrhœa, and that he is encouraged to give the preparation a prolonged trial. Ramon Guiteras said that the treatment of gonorrhœa by mercurol yielded very satisfactory results. The treatment was begun with solutions of 1/20 of 1 per cent. Having gained favourable results with weak solutions, their strength was gradually increased, until now a 2 per cent. solution was prescribed in all cases of urethritis which were not very acute. If argonin was an improvement on permanganate salts and nitrate of silver, and protargol was slightly superior to argonin, this new nucleide of mercury produced somewhat better results than protargol, and so was an advance in the treatment of gonorrhœa. Mercurol was perfectly safe, and in only a small proportion of the cases treated did it cause any discomfort. In all the cases treated the discharges were examined from time to time for the gonococcus, and it was surprising in how short a time the germ disappeared. Another remedy from which good results might be expected was nargol, a compound of nuclein with silver, containing 10 per cent of the metal, a 2 per cent. higher proportion than was present in protargol. (From Mr. Ernest Lane's summary in the Practitioner, September, 1900.)

KIDNEYS AND BLADDER, GONORRHŒAL INFECTION OF.

Dr. Bransford Lewis, of St. Louis, showed—before the American Association of Genito-Urinary Surgeons—the kidneys from an acute interstitial nephritis added to chronic nephritis. Gonococci were demonstrated in pus found in the kidney. Dr. Lewis does not understand why an infection of the kidney by gonococci alone should be a rare occurrence, and thinks it is not so rare as supposed. He believes that infection of the kidney by means of the lymphatics which accompany the ureter, and by metastasis through the blood vessels, is also much more common than has been thought. Infection without bladder involvement, which has been found, would rule out ascending infection by continuity. Cultures of gonococci have also been made from the blood of a patient suffering from gonorrhœal arthritis.—Dr. Young, of Baltimore, reported a case of chronic cystitis and double pyonephrosis which was due to infection by the gonococcus alone. The gonococcus may be the cause of cystitis, but cannot be cultivated unless the medium in the bladder is favourable to its growth. In one case the gonococcus was demonstrated to be present in the bladder for five years without giving rise to marked symptoms. (Boston Medical and Surgical Journal, September 27, 1900.)

KIDNEY, SYPHILIS OF.

(By Dr. Gabriel Delamere, *Gazette des Hôpitaux*, May 12, 1900.) Four theories have been advanced to explain the nature of renal syphilis :—(1) The nephritis is caused by the mercury administered. (2) The two disorders coincide merely. (3) The nephritis is due to the syphilitic cachexia. (4) The nephritis is caused directly by the syphilitic affection. The pathological anatomy of renal syphilis shows extreme polymorphism of the lesions, which resemble those of simple nephritis. The tertiary lesions consist chiefly of those of chronic interstitial nephritis, or of amyloid degeneration ; more rarely there are gummata, and exceptionally acute or subacute nephritis. The clinical forms of renal syphilis have not any symptoms which are peculiar to it. In secondary syphilis there are four clinical forms—acute, subacute, chronic (rare), or latent (still rarer).

The acute nephritis of syphilis resembles scarlatinal nephritis, and often leaves behind it permanent albuminuria. In the latent forms there is transient albuminuria during the roseola without any other symptoms. In tertiary syphilis the chronic forms of renal syphilis pursue the ordinary course of granular kidney, and gradually lead to death from uræmia; amyloid kidney is also slow and insidious in its course, whilst gummata may be present without their being any symptoms. In hereditary syphilis, the affections of the kidney (amyloid kidney, gummata) are often latent, but there are usually coincident lesions of the liver and spleen. The diagnosis is difficult. Even when albuminuria is present, it is not easy to determine whether it is really due to syphilis or not. The best aids to diagnosis are the futility of a milk diet alone, and a rapid improvement under anti-syphilitic remedies. The prognosis is always serious. Since early treatment adopted in the secondary forms is much more efficacious, it is possible to say that secondary nephritis is more benign the earlier it appears. The nephritis demands a milk diet and the usual remedies. The syphilitic nature of the complaint requires the administration of mercury and potassium iodide. Mercury should be given in the secondary nephritis and early-appearing hereditary forms; iodide in tertiary manifestations and late-appearing hereditary forms. In all other stages, mercury and iodide should be given together. It seems to be best to prescribe first of all a milk diet, and if this proves inefficacious, to have recourse to mercury or potassium iodide. Anti-syphilitic remedies must be given with caution, but with avoidance of too great timidity. (From Dr. F. L. Wood's abstract in the Medical Chronicle, August, 1900.)

NEPHRECTOMY.

At a recent meeting of the Société de Chirurgie, M. Albarran presented a tuberculous kidney which he removed from a young man of 20 years. The case was interesting from the precocity of the diagnosis established, thanks to catheterism of the ureter. The patient complained of but slight pain and frequency of micturition; cystoscopic examination did not reveal the existence of lesions of the bladder, but, on the other hand, the catheterism of the left ureter drew off purulent urine which microscopic examination showed to contain bacilli of Koch. Further, the urine of that side contained only 12 grammes of urea per litre, while that of the healthy side contained 18 grammes. When he had removed the organ, he found a small tuberculous cavity near the hylus of the gland. (Medical Press and Circular, November 14, 1900.)

NEPHRITIS, HEMORRHAGIC, THE EXPRESSION OF GENERAL INFECTION IN.

Instructive cases have been described recently by Holst of acute hemorrhagic nephritis as the principal manifestation of a general microbic infection of the blood. In one case the disease lasted nearly eight months and was in reality a streptococcus bacteriæmia—streptococci being found in the blood and elsewhere—but appeared clinically as a hemorrhagic nephritis of a febrile type. In the second case, the renal symptoms were associated with evidences of acute endocarditis. Staphylococcus albus was grown from the blood during life, and after death from the excrescences upon the mitral valve. A third case was observed for a time. Here there existed a fully-compensated heart lesion of some duration, but which rather suddenly became complicated with symptoms of acute nephritis. While under observation, the urine, secured under aseptic conditions, contained micrococcal masses that proved to be staphylococcus albus in pure culture. Holst emphasises especially these two points: (1) Acute hemorrhagic nephritis represents a bacteriæmia—latent pyæmia or septicopyæmia—more frequently than is commonly believed. (2) Transitory hemorrhagic exacerbations occurring in the course of chronic nephritis may be caused by an infection of the blood, just as is frequently the case in recrudescence of endocardial inflammations, the recurring hemorrhagic nephritis being similar pathogenically to recurring endocarditis. (Journal of American Medical Association, July, 1900.)

NEPHRITIS, SCARLATINAL, URÆMIC SYMPTOM OF.

The symptom to cause anxiety is the beginning of convulsive movements. They may commence as twitching of the eyelids and corners of the mouth, or may be confined to groups of muscles, unilateral or bilateral, or may become general. Sopor or stupor, to a greater or less degree, are associated with these symptoms, and finally coma. Depending upon their degree of severity, the patient is in a stupor or coma following the general convulsions. Sudden coma may develop without general convulsions preceding it. Amaurosis may occur, or the patient may notice lessening of visual power. On the other hand, a sudden fulminating attack of uræmia may occur, with immediate coma or convulsions followed by coma, with rapid death from suppression of urine, pulmonary œdema, or œdema or hemorrhage into the brain. There may be enlargement (dilatation) of the left side of the heart only, or this may first occur, followed by enlargement of the right side of the organ, an acute general dilatation of the heart, and a rapid enlargement of the liver. This last signifies a grave prognosis. Pericardial effusion may occur at any time. Endocarditis is rare, but such a condition occurring as a complication of nephritis would especially suggest a septic condition (streptococcus infection). This would be liable to occur in cases in which severe angina was a complication. The temperature would also probably assume a septic course. Rheumatism might be a cause of the endocarditis. (From Dr. R. C. Kemp's paper in Pediatrics, October, 1900.)

OXALURIA AND GRAVEL, PREVENTION OF.

[Dr. Lindley Scott makes the following remarks based on his investigations :] There are a considerable number of people, sometimes children, but generally middle-aged subjects in good circumstances, who suffer from recurrent attacks of gravel, or who after outbursts of renal colic repeatedly pass small oxalate calculi. In such subjects the prolonged administration of small doses of magnesium, say 40 gr. of the sulphate, given in the afternoon and at bed-time, in a well-diluted solution or combined with some mild diuretic, such as the citrate of potash, would seem to be a suitable form of treatment. Attention to general health, regimen, and diet must also be kept well in view. (British Medical Journal, October 15, 1900.)

PROSTATE, CASTRATION IN ENLARGED.

[Dr. Edward L. Keyes thus concludes his paper :] (1) Experiments, whether on man or the lower animals, relating to the normal prostate do not of necessity apply to the enlarged prostate. (2) I know of no direct pathological evidence that castration has ever caused atrophy of a hypertrophied prostate. (3) There is direct pathological evidence that in a few cases castration has failed to cause atrophy of the hypertrophied prostate. (4) The majority of cases reported thus far have been labelled "cured" or "improved" so soon after operation that many of them are doubtless instances of local depletion. (5) Clinical evidence of this is afforded by relapses occurring months after the operation. (6) Of the permanent cures some may well be instances of permanent advantage derived from reduced congestion. (7) The clinical evidence as to the actual atrophy of the prostate after castration lacks, as yet, its scientific confirmation, and has failed thus far to prove its title to the surgeon's credence. (Medical Record, July 21, 1900.)

PROSTATIC HYPERTROPHY, TREATMENT OF.

Professor A. von Frisch, in a paper read before the Thirteenth International Congress of Medicine (*Résumé des Rapports de la Section de Chirurgie Urinaire*, Paris, 1900), gives it as his opinion that no operation which does not directly remove the obstruction can promise a lasting success. Among such operations he places the procedures of suprapubic, perineal, and lateral prostatectomy, and the galvano-caustic incisions of Bottini. He points out that the cicatrix following the wound must not be of such a nature as to interfere with the freedom of the passage procured by the operation. Von Frisch considers that the most desirable operations are the various prostatectomies ; but, in view of the advanced age and undermined constitutions of many of the patients, he prefers the operation of Bottini. He sounds, however, a note of caution, much to be commended in view of the enthusiasm with which this operation has been received, especially in the United States, to the effect that the operation is by no means so free from danger as has often been stated. (Treatment, September, 1900.)

RENAL DISEASE AND CARDIO-VASCULAR CHANGES

(By Dr. Aloysius O. J. Kelly, *Philadelphia Medical Journal*, October 27, 1900.) That this relationship is sometimes overlooked, is the conviction of the author. An hypertrophy of the heart is found in association with all forms of nephritis, but not in all cases. One of the signs of cardiac disease in chronic nephritis, that will immediately arrest the clinician's attention, is displacement of the apex beat. It may be found in the sixth, seventh, or eighth interspace, outside of the nipple line, even as far as the midaxillary line. Another evidence of hypertrophy of the left ventricle is found in the marked accentuation of the aortic second sound of the heart. Whenever the heart begins to flag, medication is called for, and there are no better remedies than nitro-glycerine and caffeine. When there is no marked cardiac debility, there are several drugs that should not be given, and among these, digitalis should be mentioned first. Marked cardiac dilatation demands digitalis in large doses. Strychnine is good in all stages of the disease. (New York Medical Journal, November 3, 1900.)

URIC ACID SALTS.

The following are the conclusions of Drs. Tunnicliffe and Rosenheim :—(1) There is no evidence of the existence of a third order of uric acid salts—*i.e.*, quadriurates—either in the artificial or natural amorphous urinary deposits or in the fluids of the body. Under these circumstances, we regard it advisable to discontinue the use of the term "quadriurate." (2) The substances obtained artificially under the conditions supposed to produce quadriurates consist of mixtures in varying proportions of uric acid and biurates, or of pure uric acid or pure biurates alone. (3) Natural amorphous urinary deposits consist of a mixture of uric acid with urates of sodium, ammonium, potassium, calcium, and magnesium (containing in most cases in addition phosphoric acid). (4) The property of some natural and artificial amorphous urates of showing the formation of uric acid crystals under the influence of water is due to the dissolving out of the more soluble biurate moiety and a change in physical state of the remaining uric acid. (5) Any theory concerning the pathology or treatment of gout or the uric acid diathesis built upon the assumption of the existence of quadriurates requires reconsideration. (6) The existence of two forms of uric acid (the tautomeric lactam and lactim form) may explain the variation in the physical and physiological behaviour of this acid and its salts. (The Lancet, June 16, 1900.)

URINARY CALCULUS, OPERATIVE TREATMENT OF.

The August number of the *Indian Med. Gaz.*, Calcutta, is entirely devoted to questions connected with stone in the bladder, and especially with its treatment by operation. J. A. Cunningham, of Delhi, refers to the mortality in the hands of all Indian litholapaxists for a period of five years ending in 1895, as being 3·96 per cent. in a total of 10,073 operations ; whereas he estimates the death rate in lithotomy as probably near 25 per cent. He describes litholapaxy in the female as being particularly easy and simple ; the largest-sized instrument can generally be used. Suprapubic lithotomy is recommended for two classes—stone associated with tumour of the bladder, and stone associated with a projecting middle lobe of the prostate ; the latter should be removed at the same time as the stone. As regards the liability to recurrence of stone after litholapaxy, the author is inclined to believe that it is about equal to that after lithotomy. (From Dr. Alexis Thomson's periscope in the Edinburgh Medical Journal, November, 1900.)

UROERYTHRIN.

(From Dr. A. E. Garrod's Bradshaw lecture.) Urines which throw down intensely pink uratic sediments or have the fiery orange colour indicative of much uroerythrin in solution are most frequently passed by patients with definite hepatic diseases such as cirrhosis, carcinoma, or the passive congestion resulting from cardiac lesions. It is true that this pigment is often excreted in large amount in certain febrile disorders, such as acute rheumatism and pneumonia and also in gout, and when associated with an undue excretion of hæmatoporphyrin it affords additional evidence of the implication of the liver. In typhoid fever a large excretion of uroerythrin is exceptional and its occurrence has been connected with pulmonary complications. Riva has made the interesting observation that in such diseases as cirrhosis hepatis the excretion of uroerythrin, as also of urobilin, is much diminished when the patient is put upon milk diet. In nephritis uroerythrin is seldom found in the urine, but I have seen in a case of pneumonia an abundant excretion of this substance accompanying conspicuous albuminuria. If uroerythrin in the urine is always indicative of hepatic disorder it is clear that not only actual disease of the liver, but even functional disturbances of the slightest description, such as may be supposed to result from trifling errors of diet or may accompany a dyspeptic attack, suffice to bring about its appearance. (The Lancet, November 10, 1900.)

General Surgery, and Affections of the Bones, Joints, &c.

ADENOIDS.

Dr. Irving E. Kimball said that in 350 adenoid operations done in twelve years he had not seen either primary or secondary hemorrhage of sufficient gravity to give anxiety. In all but four of the cases ether had been the anæsthetic employed. Unfortunately, this immunity from hemorrhage had not been the experience of all. The modern methods of doing this operation were perhaps responsible for the increasing tendency to undue hemorrhage. He was inclined to think this was because an effort was made to do the operation hurriedly. In the early years of his experience it had not been uncommon to take thirty minutes for the operation. No one instrument would always be sufficient. The forceps was not to be despised. Careful inquiry should be made into any family hemorrhagic tendency. The patient should be kept in bed and under observation for twenty-four or forty-eight hours after the operation. It was also well to keep the patient under one's immediate observation for a short time after operating. (New York Medical Journal, September 22, 1900.)

AGED, SURGERY IN THE.

Dr. J. P. Tuttle, of New York, reviewed his experience with 163 patients aged over fifty years and 133 over sixty. The second group averaged about sixty-nine years. Two deaths had occurred from pneumonia and one from a confusion of urine specimens which led to operation on a man with advanced renal disease. The operations were many of them major, representing hæmorrhoids, hernia, varicocele, re-section of the intestine, fistulæ-in-ano, prolapse of the rectum, hysterectomy, &c. The anæsthetic employed was ether 183 times, cocaine 30, chloroform 13. In the rest of the cases no minute of the anæsthetic was made. There were no deaths from anæsthesia. None of the patients were robust. None were selected for the paper. Almost all had moderate albuminuria. Fatty and epithelial casts always excluded, but only very many hyaline casts prevented operation. Celerity and rigid asepsis were always followed. Shock was often absent. Primary union was the rule. In the aged we assume either no vicious habits and good care or originally fine constitution or both. Hence, operations should be well borne. (Medical News, June 23, 1900.)

CANCER, THE PROPHYLAXIS OF.

Dr. Robert Behla (*Deutsche Medizinal Zeitung*, No. 45, June 4, 1900) says that the outlook has not changed since Bardleben said, twenty-five years ago, that prophylaxis against cancer could not be found. However, Behla thinks the following points worthy of attention. From various researches about the supposed cause of cancer suspicion has been thrown upon the water in stagnant pools, ponds, ditches, which are surrounded by wood or bushes on their banks ; and this may with great probability be regarded as the bearer of the cancer germ. In such places where endemic cancer is present it is desirable that such water should not be used for drinking unless it be boiled, nor should it be used, unless boiled, for household purposes, *e.g.*, washing tables, &c., eating and drinking vessels, or to water the garden and field beds with it. Cancer may also be derived from vegetables, so that salads and raw vegetables must not be washed with such water. To the use of salad, raw vegetables, fruit, berries, a greater hygienic attention must be paid ; they are often very dirty and covered with germs. The baskets, sacks, &c., in which the fruit is stored are often kept in damp unclean rooms, cellars, outhouses, &c., where mould is prevalent. This is still a blot on the hygiene of foods, for whilst with water, meat and milk the best sanitary measures prevail, to infection from raw vegetables and fruit the gate is wide open. He thinks hereditary undoubtedly plays an important *rôle* in the etiology of carcinoma; he also blames marriage between near relations. Infection may be conveyed by the secretions, discharges, blood, &c., from cancer by means of fingers, instruments, pipes, drinking vessels, &c. The author has the conviction obtained from local observations on striking frequent outbreaks of cancer which cannot be accidental; and he considers that the cancer germ resides in the house or in its near neighbourhood, and that it will be eventually shown to be a plant fungus, and that then cancer will become a preventable disease. (Abstract in the Quarterly Medical Journal, November, 1900.)

DEFORMITIES, TREATMENT OF PARALYTIC.

(From Mr. Muirhead Little's paper, based on 115 cases with 147 deformities.) The majority of these cases were treated by subcutaneous section of contracted tendons and fasciæ by correcting splints, &c., by exercises and massage, manipulations, and were then supplied with retentive apparatus to enable them to walk with their feet in good position. One case of extreme palsy of the shoulder was benefited by an apparatus that enabled him to fix that joint in various positions and so better avail himself of those muscles of the forearm that remained active. In only 12 feet was any open operation thought necessary. Tendon transplantation or tenoplasty was performed eight times and arthrodesis five times. In four cases arthrodesis of the ankle was performed, and in one of these the knee was also stiffened. One case was only operated upon a fortnight ago and nothing can be said as to results. The other cases were all benefited and the results may be described as encouraging, although it is, in many cases, difficult to say how much of the improvement is due to the removal of the deforming muscle and how much to the newly-constituted muscle or muscles, also in the cases of calcaneus a good deal of the improved plantar flexion movement is due to the flexors of the toes when these muscles were not palsied. The cases were all first treated by the correction of all contractions as far as possible, and all were sent out of hospital with instruments to support the joint. (British Medical Journal, September 1, 1900.)

DISINFECTION OF SPONGES.

(By Dr. Charles A. Elsberg.) The steps of the procedure are the following: (1) The sponges are freed from calcareous matter by immersion for twenty-four hours in eight-per-cent. muriatic acid solution, and are then thoroughly washed in water. (2) They are then boiled for fifteen minutes or longer in the following solution: Potassium hydrate, 1 part; tannic acid, 3 parts; water, 100 parts. (3) They are washed in water, carbolic acid, or sublimate solution until all of the potassium hydrate-tannic acid mixture (which is of a dark-brown colour) is removed. (4) The sponges are preserved in five-per-cent. carbolic acid solution. Sponges that have been used can be resterilised by washing them in water, and then boiling them once more in the solution, &c. The solution can be used any number of times, as it does not deteriorate by boiling or by age. Sponges prepared in this manner are absolutely sterile, and they will be found to have retained all their physical qualities—size, softness, elasticity, power of absorption, &c. The procedure will be described in further detail in a future publication. (Medical Record, June 30, 1900.)

FINGER INFECTION.

The treatment of these cases of finger-joint infection depends on whether the joint alone or the tendon sheath in addition is involved. The principles observed in both cases are identical. The application of suitable dressings to the part, which is kept elevated and in absolute rest, is reinforced by incisions which allow generous drainage, and thereby prevent the retention of any foul material in the area of inflammation. In the case of joint involvement the incisions should be on either side, made if possible where the joint is most superficial, thoroughly exposing the synovial cavity and the articular ends of the bone, avoiding, naturally, any adjacent normal tendon sheath. In severe cases the drainage of the joint cavity is still further facilitated by the resection of the articular extremities of the bone. In those cases in which the nature of the infection is such as to cause serious toxæmia, the patient must also be kept in bed and subjected to the usual constitutional treatment of this condition. (From Dr. Eliot's paper in the Medical News, October 13, 1900.)

FRACTURES OF LOWER END OF THE RADIUS.

[Dr. Frederic J. Cotton thus speaks of lesions of vessels :] Injury to vessels of any size seems to be exceptional. One specimen in the Warren Museum, obtained from an amputation for gangrene where gangrene resulted from a tear of the radial artery by a spur of the upper fragment, seems to be unique. Hemorrhage from smaller vessels is common, rarely extensive, and may occur in various situations. The Couper-Hutchinson autopsy disclosed hemorrhage between the tendon sheaths, and two cases with hemorrhage beneath the flexor tendon sheaths and bleeding into the tendon sheaths are reported by Cloquet and Bruns; both these cases were epiphyseal separations. (Annals of Surgery, September, 1900.)

GANGRENE OF THE LOWER EXTREMITIES.

Bunge, of Königsberg, discusses the nature of the vascular lesion observed in fourteen cases of senile and diabetic gangrene of the lower extremities. He points out how difficult it is to distinguish histologically between primary overgrowths of the endothelium (endarteritis obliterans) and the products of the organisation of thrombi. The author believes in a primary "arterio sclerosis obliterans," terminating in thrombosis; the latter, by extending into the collateral branches, abolishes the anastomotic circulation, and determines the occurrence of gangrene. So far as the surgical treatment of the gangrene is concerned, he regards the recommendation to amputate through the thigh in all cases of senile and diabetic gangrene as too sweeping, for good results may sometimes be obtained by amputating through the leg, or, in younger individuals, by conservative measures. Stress is laid on the treatment to be adopted before the occurrence of gangrene, *i.e.*, at the onset of the early symptoms, such as pain, intermittent lameness, loss of pulsation in the arteries of the foot; the author recommends the long-continued administration of iodides, and the use of baths. When gangrene does show itself, one should not wait too long for a line of demarcation, because the further ascent of thrombosis may necessitate the amputation of the limb at a higher level than would otherwise have been necessary. (From Dr. Alexis Thomson's periscope in the Edinburgh Medical Journal, September, 1900.)

JOINTS, TREATMENT OF TRAUMATIC.

I desire to express my belief: (1) That all injuries to joints accompanied by loss of function are always attended by more or less laceration of the tissues in or about the joint. (2) That the delays in the restoration of function are due in most instances not to any complicating diathesis, but to the changes incident to the repair of these lacerations and their effects. (3) That such delays are best avoided by an early resort to massage and active or passive motions, and are favoured by too long a continuance of rest and fixation. (4) When such delays have occurred, they are best overcome by more vigorous and persistent manipulation, supplemented by the application of heat or such other agents as may best stimulate the local circulation, and favour the elasticity of the tissues. (From Dr. Homer Gage's paper in the Boston Medical and Surgical Journal, September 27, 1900.)

MORPHINE IN SURGICAL PRACTICE.

The general indications as to the employment of morphine in surgery may be summarised as follows:—(1) Morphine should be given hypodermically and in doses sufficient to accomplish the purpose for which it is given. (2) When surgical shock is attended by such severe pain as to cause uncontrollable restlessness, morphine should be given in doses adequate to relieve it. The same treatment is indicated for shock-restlessness without pain (usually due to hemorrhage), the appropriate general treatment for shock being also carried out. (3) Morphine is the best internal hæmostatic in the treatment of hemorrhage. When the hemorrhage is complicated by restlessness, morphine is absolutely indicated because of its quieting effect upon both mind and body. (4) When drunkards or exceptionally neurotic patients are to be anæsthetised, a preliminary hypodermic injection of morphine renders such anæsthetisation quicker, easier, and safer, and favourably affects the stage of recovery. Obstinate and exhausting vomiting after ether is sometimes relieved by morphine. (5) If, in the first twenty-four hours after operation pain becomes so severe as to cause uncontrollable restlessness, this pain should be relieved by morphine. To this rule there are practically no exceptions. It applies to all operations regardless of the operative area. (6) When used in accordance with these indications the beneficial effects of morphine so overshadow its injurious effects that the latter are not demonstrable. To this rule there may be a very few exceptions. (From Dr. Edward Martin's paper in the Therapeutic Gazette, September 15, 1900.)

SEPSIS IN THE FIELD.

[Dr. Gordon Watson thus writes from South Africa :] Tetanus, hospital gangrene and the like are unheard of, septicæmia and pyæmia very rare; erysipelas has occurred in isolated cases. Secondary hemorrhage from suppuration has been unpleasantly frequent; many cases of severe fracture of the femur have succumbed to this or to septic absorption. When it is remembered how many hands a patient passes through before he reaches his final resting-place, one cannot wonder if a link in the aseptic chain is sometimes wanting. With a healthy patient and a healthy atmosphere great precautions are neither expected nor required, nor are they to any extent possible. The use and supply of antiseptic dressings has been most liberal, but a little economy here and a little more liberality in the use and supply of soap and nail brushes would have provided a link in the chain that was often wanting. An important link is formed by the hospital orderly. The task of the hospital orderly is no light one. He is expected to be soldier and stretcher bearer, nurse, dresser and wardmaid; he is seldom the complete article, but nevertheless a very good fellow, and generally works like a slave. (St. Bartholomew's Hospital Journal, August, 1900.)

Affections of the Skin, &c.

ARSENICAL PIGMENTATION AND KERATOSIS.

(By Louis Hamburger, *Bul. of the Johns Hopkins Hosp.*, April, 1900.) A clerk aged 42 years, suffering from some chronic cutaneous affection (probably psoriasis), began taking arsenic in doses of 5 to 8 m. of Fowler's solution three times daily about ten years ago, and has continued its use, off and on, ever since. He took the last dose three weeks before he presented himself for examination. On being examined he was found to be suffering from ascites, and presented the following cutaneous lesions: There was a more or less deep-brown discoloration of the skin over the entire body. The pigmentation was of a mottled yellowish-brown colour, due to small areas of less pigmented, almost white skin, alternating with similar areas more deeply coloured. Here and there were dark mole-like spots. The skin was slightly dry and scaly. The face was freckled and the complexion muddy. The pigmentation was chiefly marked on the neck, axillary and inguinal folds, and the areolæ of the nipples, and it faded on the limbs towards the hands and feet. The skin of the palms was diffiusely thickened, and that of the whole hand was scattered over with dirty-grey warts and callosities. (From Dr. MacLeod's abstract in the British Journal of Dermatology, September, 1900.)

ARSENIC IN SKIN DISEASES.

Without doubt, in many instances, arsenical preparations not only are inert as far as concerns the removal of the particular eruption for which they are prescribed, but actually aggravate the disease and prolong its course. For example, how often has this mineral been given in cases of acute eczema in which it actually not only has done no good, but contributed largely to the increased discomfort of the unfortunate patient by augmenting the inflammatory symptoms already so troublesome? If arsenic does any good at all in eczema it is only in the most chronic cases, and where the disease is exhibited by lesions consisting of thickened, dry, scaly patches of skin; and it is doubtful whether a recovery cannot be brought about more readily even in these cases by well-selected local treatment, combined with general measures, calculated to remove any other cause of ill-health. The same contra-indication applies not only to the above-mentioned disease, but also to any form of skin affection in an active, inflammatory condition; and hence, whether the particular disease has lasted over a period of years or only for a few days, if acute inflammatory symptoms are present at the time, arsenic cannot be prescribed without doing harm. Besides the immediate irritating effect it has upon the skin itself, indirect mischief may be produced by its aggravating that unhealthy condition of the alimentary canal which is so often associated with the more superficial trouble. With regard to those conditions suitable for the administration of arsenic, most authorities admit, tacitly or otherwise, that its curative effect is quite uncertain ; and there seems also to be considerable difference of opinion as to the circumstances under which it is likely to do good. (From Dr. W. J. Munro's paper in the Australasian Medical Gazette, August 20, 1900.)

DERMATITIS EXFOLIATIVA NEONATORUM.

Rarely occurring during the first week, it develops as a rule from the second to the sixth, most commonly toward the end of the second. It has been stated that the eruption frequently begins in the face, attacking the lower limbs at a later period, though it is more persistent in the latter region ; but in the case referred to the eruption broke out first in the part of the body situated below the pelvis, extending thence to the trunk, upper limbs, and lastly to the head, principally the neck and face. Authorities declare, however, that dermatitis exfoliativa, which as a rule is generalised, may, in whatever region it begins, markedly predominate at certain spots. The clinical picture of dermatitis exfoliativa varies, though as a rule the disease is characterised by intense redness, almost a wine colour, associated with swelling. There are plausible reasons for regarding this redness of the skin as passive congestion. It is, however, an apyretic affection. Abnormal forms of dermatitis exfoliativa are sometimes met with. In some cases the epiderm, instead of coming off in scales, forms genuine vesicles, and when the liquid which they contain has dried desquamation supervenes and leaves a depression at the point originally occupied by a vesicle. A third form of dermatitis exfoliativa is said to be characterised by the epidermis being raised to a still greater extent, so as to result in the formation of genuine bullæ, containing a clear liquid, followed by more extensive desquamation. Generally speaking, the eruption of dermatitis exfoliativa lasts about a week. The desquamation which follows may persist for weeks, and sometimes give rise to intradermic fissures. The etiology of dermatitis exfoliativa neonatorum is extremely obscure, in spite of the various theories advanced in explanation of the condition. (From Dr. Baumel's paper in the Medical Press and Circular October 17, 1900.)

ERYTHEMA, HÆMATURIA AND NEPHRITIS IN.

Acute nephritis occurred in six out of 18 cases. Chronic nephritis occurred in one case, and hæmaturia at the close. In a case reported by Dr. Prentiss, of Washington, a chronic nephritis of several years' duration followed an attack of arthritis, with purpura and gastro-intestinal crises. To two of the instances of nephritis I may call particular attention, as death directly occurred from this complication. In one case, a boy of six years, the onset was with pains in the ankles, colic, and urticaria. The colic recurred with great severity. It was not until the fifth week of his illness that the urine became scanty and albuminous, and showed red blood corpuscles and many tube casts. He died with dropsical symptoms in three months. In another case the disease set in with pain in one ankle and urticarial rash. Within a month the child had anasarca, with albuminuria and tube casts in the urine. The patient died in uræmic coma. (From Dr. Osler's paper on the Visceral Lesions of the Erythema Group, British Journal of Dermatology, July, 1900.)

FINSEN'S PHOTOTHERAPY IN LUPUS.

It is the constant tendency to relapse that makes the treatment of lupus so wearying, and it is to be hoped that Finsen's treatment will prove successful. Dr. Hall Edwards (*Edinburgh Medical Journal*, February, 1900) gives the results of some cases he treated. In a case of lupus vulgaris in a boy aged 14, he tried the treatment on a patch situated on the instep of the foot; the patch at the time was quiescent, and showed no signs of inflammation. Sixteen days after treatment the patch became inflamed and tender, and began to break down ; five days later a regular ulcer with ragged edges formed ; this ulcer took twelve months to heal. The result seemed to be permanent, but otherwise, he states, the case was not improved. He draws attention to the case of a girl suffering from lupus erythematosus at the age of 15. In this case, again, he seems to have produced an unhealthy ulceration, which took two months to heal. He says that the skin of the face, on which the rays had not been used, took on a healthy action, and the disease appeared from the face before the arm wound had healed. (The Physician and Surgeon, July 19, 1900)

ICHTHYOL IN SKIN DISEASE.

The following are Dr. Brownlie's conclusions :—My experience has been that from 2 per cent. to 5 per cent. ichthyol applications are best in acute forms of inflamed skins, and from 5 per cent. to 10 per cent. strengths in more chronic, drier conditions. In acne vulgaris anything up to 25 per cent.—namely, between 10 per cent. and 25 per cent.—is useful. In all cases the internal administration of the drug is an assistance. I believe that ichthyol taken internally has a direct influence on the skin, and is most probably excreted by it. Moreover, the taking of ichthyol internally increases weight, and this applies more particularly to weakly, strumous children. The one disappointment which I must record is that itching is not relieved as quickly as one might expect, certainly not as quickly as the pain is relieved. Patients express gratitude for the feeling of comfort experienced, but the itching soon returns. The itchiness does indeed disappear after a time, but it is always the last symptom to go. In prurigo and pruritus vulvæ or ani I have not found much benefit to result from the use of ichthyol. When prescribing ointments I always advise the patients to use their oldest under-linen, as ichthyol has a staining effect, although it is stated that if quickly washed in warm water any clothing thus stained is made quite clean again. (The Lancet, November 24, 1900.)

IMPETIGO, CAUSE OF.

Dr. Allan Jamieson comments upon Sabouraud's paper (*Ann. de Dermat. et Syph.*, January, March and April, 1900) as follows :] The only comment which we would offer on this too brief abstract of long, elaborate, and admirably illustrated articles is, that while we may accept the pustular impetigo of Bockhart, and with it many other pustular affections, as occasioned by the staphylococcus aureus of Rosenbach, it strikes us that more proof must be given ere we can admit that the streptococcus of Fehleisen is the causal agent of the impetigo contagiosa of Fox. The marked differences which this very uniform disease presents from erysipelas, also ascribed to the same organism, makes us hesitate. Microscopically, the microbe of impetigo contagiosa is a superficial one, that of erysipelas invades the lymph spaces. Clinically, impetigo contagiosa repeats itself, does not originate erysipelas, even sporadically, while a case of erysipelas in one of a family does not serve as a focus of impetigo contagiosa in other members. (Edinburgh Medical Journal, July, 1900.)

PRURITUS, TREATMENT OF.

Dr. E. Andrews (*Clinical Review*, May, 1900) recommends the application of hot water for cases of pruritus, especially when affecting the scrotum or anus. The water should be as hot as can be borne without blistering. In cases of pruritus ani the patient is advised to use compresses pressed against the anus after soaking in the hot water. The compresses must be frequently changed, and continued till the itching has ceased. The author mentions that radiant heat might be used for the same purpose instead of hot water. (Abstract in Treatment, August, 1900.)

Affections of the Eye, Ear, Throat, &c.

ANÆSTHESIA IN THE EAR, PRODUCTION OF.

Aqueous solutions are quite useless for this purpose. After making a considerable number of experiments, it was found that a mixture of equal parts of aniline oil and rectified spirit formed the best vehicle to enable the drug to penetrate. The following formula fulfilled the purpose best :—℞.—Cocain. hydrochlor., 5 or 10 parts ; spt. vin. rect., 50 parts ; aniline dil., 50 parts. The patient's head is laid on one side on a table, and a few drops of the solution are poured into the uppermost ear and allowed to remain there for from five to fifteen minutes. Anæsthesia will be complete, and will enable the membrane to be incised freely without pain. The 5 per cent. solution is usually sufficient, but in acute painful catarrh the 10 per cent. solution may be necessary. If there is perforation of the membrane with suppuration, the discharge should be very carefully syringed away, and the parts very thoroughly dried before instilling the drops. If this be not done, the albuminous constituents are coagulated on the surface of the mucous membrane or granulations, and further penetration is prevented. The condition which resists penetration and consequent anæsthesia most powerfully is that of thickening of the membrane. To obtain anæsthesia in these cases, the solution should be made up with absolute alcohol instead of rectified spirit. Such a solution, however, is not suited for cases in which perforation has occurred, on account of the burning pain which it may produce before the cocaine has time to take effect. A 5 or 10 per cent. solution of cocaine in pure aniline oil sometimes does very well in cases where there is no perforation. As regards the absorption of cocaine in this method, there is no fear of any serious symptoms developing. The maximum medicinal dose of aniline oil is seven minims ; care should be taken that not more than this amount is liable to be absorbed. (From Dr. Albert A. Gray's paper in the Glasgow Medical Journal, June, 1900.)

DIPHTHERIA OF CONJUNCTIVA.

Dr. H. E. Smith relates a case, and emphasises the risk of infection. A child, aged two years, had been suffering from epileptiform convulsions on and off for seven months, but had not been seen by me for a fortnight, when a message came for me to see the child as the convulsions were worse. The first thing which attracted my attention was a slight sanious discharge from the right eyelids, which immediately made me suspect diphtheria. The parents, on being questioned, said that there had been a "cold in the right eye" for three days, but that they had attached no importance to it. On examination I found no membrane, but I took a specimen of the discharge with the usual precautions, and had cultivations made from this, the result being that typical diphtheria bacilli were found. There was no lesion of the throat nor of the nose, and there had been no other cases of diphtheria in the same house. The site of the local lesion is, of course, unusual, but the chief points of interest are : (1) The cause of illness might easily have passed unnoticed ; (2) infection might readily have been spread ; (3) the origin of such spread would probably not have been recognised. (British Medical Journal, July 14, 1900.)

EUPHTHALMIN.

Dr. Casey A. Wood (*The Ophthalmic Record*, April, 1900) suggests, after considerable experimentation, that any disadvantages to its employment would be overcome in average cases by the use of the following mixture : Euphthalmin, cocaine muriate, of each, one-half per cent. in distilled water. Two drops to be instilled every five minutes for a quarter of an hour. In from 20 to 30 minutes, the eyes being kept closed most of the time, the pupil will be dilated to its widest extent, and this effect, again, will have disappeared in a much shorter time than if the stronger solutions of euphthalmin alone had been employed. In the former instance we have a sudden, sharp, but transitory action of the drug ; in the latter a slower, quite as effective, but more prolonged, mydriasis. (From Mr. Simeon Snell's abstract in the Quarterly Medical Journal, November, 1900.)

HOMATROPINE AS A CYCLOPLEGIC.

I may summarise as follows the conclusions which seem justified : (1) The necessity of cycloplegia in order to accurately test the refraction of young people is established, though satisfactory fitting can doubtless often be done without it. (2) Atropine is, all things considered, the most reliable cycloplegic, but a great objection to its use is the length of time consumed. (3) For testing the average case, without muc chorio-retinal irritation or marked ciliary spasm, homatropine, properly used, is sufficient. (4) The best method is that of the homatropine and cocaine discs, made after the formula and used after the method of Dr. Casey Wood. (5) In many cases atropine must be used, to relieve spasm, to procure rest, and thus to allay chorio-retinal irritation. In these cases the patient can no more justly object to its use than he can to its being used in iritis. In both cases his time and his business interests are secondary to the ultimate attainment of useful vision. (From Dr. E. C. Ellett's paper in the Journal of the American Medical Association, September 15, 1900.)

INFLUENZA, OCULAR COMPLICATIONS OF.

Recently many ocular diseases have been attributed to epidemic influenza. Dr. A. Péchin (*Recueil d Ophthalmologie*, March, 1900) records three cases of his own, and mentions most of the eye diseases secondary to influenza, including cellulitis of the orbit, sinusitis, œdema of the lids (inflammatory, or due to an accompanying Bright's disease), abscess of the conjunctiva or of the ciliary glands. Occasionally abscess of the upper lid results from inflammation in the frontal sinus. Other complications are conjunctivitis, keratitis of several forms, tenonitis, episcleritis, iritis, cyclitis, and choroiditis. The lens may become opaque, and the vitreous the seat of a suppurative hyalitis. Glaucoma may occur, and hemorrhages in the retina and neuro-retinitis may be found. Retro-bulbar neuritis, in which there is pain on pressure on the globe, sometimes results, and is attributed to propagation of inflammation in the sphenoidal sinus to the sheath of the optic nerve. In addition, paralyses of the various nerves of the eye may occur. (Abstract in Medical Chronicle, June, 1900.)

OTITIS MEDIA, PNEUMOCOCCIC.

Otitis media is now well recognised as one of the manifold consequences of pneumococcic infection It may be primary or secondary to pneumonia. At the meeting of the Société Médicale des Hôpitaux of Paris on October 26 Dr. Hirtz related the following interesting case, the first on record in which otitis media was apparently contracted by contact with a patient suffering from pneumonia. A man, aged 65 years, had pneumonia of the right lung, which terminated favourably by crisis on the ninth day. His wife nursed him day and night, and emptied and cleansed the spittoon. On the fourth day she had a purulent discharge from both ears. The pus was whitish and grumous and without odour. The discharge lasted about 12 days. She did not suffer in any way, and under antiseptic treatment rapidly recovered. Both tympanic membranes were perforated. The appearance of this double otitis without antecedents in a person in contact with a patient suffering from pneumonia caused Dr. Hirtz to suspect that it was due to contagion. In the pus numerous pneumococci and small bacilli, the nature of which was not determined, were found. Contagion may have taken place through the auditory meatus or through the nose, possibly from the patient's hands soiled by contact with the spittoon. This case shows that those who attend on pneumonic patients should observe the same precautions as in cases of tuberculosis. (From leaderette in The Lancet, November 24, 1900.)

PHLYCTENULAR AFFECTIONS OF EYE.

[Mr. Sydney Stephenson thus speaks of the etiology :] In brief, I may say that, generally speaking, I regard phlyctenular disease as due remotely to the tuberculous diathesis, and immediately to an eruption of eczema upon the surface of the eyeball. Anything tending to lower general resistance, as measles or imperfect hygienic surroundings, or local resistance, as slight injuries to the eyeball, or catarrhal conjunctivitis may induce the disease in a predisposed subject. It is important to bear in mind that eczematous inflammations may involve mucous membranes other than the conjunctiva, and that such changes, when found, may help to elucidate the etiology of an otherwise obscure corneal ulcer. (Medical Press and Circular, October 10, 1900.)

SUPRARENAL EXTRACT, SECONDARY HEMORRHAGE AFTER.

[Dr. Frederick F. Hopkins has met with hemorrhage after using this agent in nasal operations. He thus concludes his paper :] It would seem that the powerful stimulation to contraction of the swollen mucous membrane, induced by the suprarenal extract, while equal to retaining a grip on the dilated blood-vessels for a long time, does not yet suffice to prevent indefinitely, but only to delay, the paralytic stage following the use of cocaine. It also seems to be true that the final relaxation attending the combined use of the two agents is greater than that following cocaine alone. This presentation is not intended as an argument against the use of suprarenal extract in intranasal surgery. Calling attention to the dangers which attend its use in surgery, carries with it the suggestion of safety. Let the nasal fossa be carefully packed after every operation. My own preference is for the employment of a packing saturated with an astringent. (New York Medical Journal, August 25, 1900.)

SYPHILIS OF OPTIC NERVE AND RETINA.

I believe that the optic nerve and retina can become involved in syphilis in three different ways—first, from the direct action of the specific poison upon the nerve fibres themselves, thus producing a primary syphilitic inflammation; secondly, from a syphilitic growth, either a gumma or a syphilitic meningitis, within the cranium, thus producing an increased intracranial pressure, with its resulting papillitis or papilloretinitis, or direct extension of inflammation in case of meningitis; and, thirdly, from diseased conditions of the blood-vessels in the cerebrum, optic nerve, and retina produced by syphilis. (From Dr. T. P. Vaughan's paper in the New York Medical Journal, October 6, 1900.)

TYPHOID FEVER, OCULAR LESIONS OF.

E. Koenig, Paris, reports a case of optic neuritis and divergent strabismus without ptosis coming on at the end of the third week of typhoid fever. The patient was a woman, aged 23 years, who for three years had been subject to epileptic seizures. The fields of vision were concentrically contracted, and the right eye, which was in all respects the worse, had a relative central scotoma. The ophthalmoscopic appearances were those of retrobulbar neuritis rather than of choked disc. M. Antonelli, Paris, reports congenital ocular defects in a child whose mother suffered from severe typhoid fever from the fourth to the sixth month of her pregnancy. Both eyes presented anterior polar and cortical cataracts. There were nystagmus, grey, irregular optic discs, vascular changes, and pigment changes throughout the fundus. The child was the second of three, both the others being quite healthy. It was very small at birth and delicate, and the dentition had been somwhat irregular. In discussing the above cases M. Boucheron said that choroidal hemorrhage was the common lesion of the eye in typhoid fever. The hemorrhage as such quickly disappeared, but the scar caused by it remained. —*Recueil d Ophthalmologie*, February, 1900. (American Journal of the Medical Sciences, September, 1900.)

Obstetrics and Gynæcology.

ABDOMINAL SECTION, DANGERS OF.

[Dr. William Hunter records a series of 100 cases without a death. The following is taken from his remarks :] The two great dangers after abdominal section are, in my experience, shock and tympanites from intestinal paralysis. The shock is combated by hypodermic injections of three minims of solution of strychnia three times a day. For tympanites my plan is to try to prevent its occurrence by having a soft rectal tube passed up the bowel every four hours, and if after 24 hours flatus is not freely passing (either naturally or by the tube), an enema containing an ounce of oil of turpentine to a pint of hot water is injected high up, and, if necessary, is repeated two or three times a day. Once the escape of flatus is satisfactorily established, my mind is at rest, and the patients almost invariably do well. Nowadays the onset of peritonitis after abdominal section should be practically never met with, unless some unavoidable occurrence (such as the rupture of a pyosalpinx) has happened during the operation, and even then with careful and thorough flushing out the risk is small. I am not a believer in the efficacy of saline aperients, either for tympanites or peritonitis ; they certainly have not proved in my hands anything like so effectual as the turpentine enemata. (The Lancet, July 7, 1900.)

ABORTION, OCCURRENCE OF.

Dr. J. B. Hellier said, before the North of England Obstetrical and Gynæcological Society, that he had analysed the history of 1,800 married women, out-patients at the Hospital for Women, Leeds. These women had given birth to 6,974 children, an average of 3·87 each. They had had 1,288 abortions, that is one to every five and a half children ; 1,616 of the women had become pregnant, 184 were sterile ; of these 58 only had had one or more abortions, but had never gone to term. Thus it follows that among a group of women in whom the frequency of abortion may be supposed to reach its maximum, 96·5 per cent. of those who became pregnant will sooner or later bear one or more children at term. (Medical Press and Circular, December 12, 1900.)

ABORTION, RAPID INDUCTION OF.

Doléris (*Semaine Médicale*, September 5, 1900) dilates the cervix, or if time presses makes a lateral incision in it. He then entirely empties the uterus with a blunt, rounded, fenestrated curette, the action of which is aided by swabbing. In a few minutes the uterus is entirely emptied and without hemorrhage. He states that the pain is so slight that no anæsthesia is required. The incision in the cervix is sutured immediately. The author holds that this is the safest, promptest, and surest method of treatment. (Abstract in Therapeutic Gazette, November 15, 1900.)

APPENDICITIS AND DISEASE OF THE ADNEXA.

In a discussion before the Leipzig Obstetrical Society, Firth (*Monatsschrift für Geb. u. Gyn.*, Band ix, Heft 2) called attention to the fact that the appendicular ovarian ligament described by Clado, instead of being constant, is the exception. He believed that the frequent occurrence of appendicitis as a complication of disease of the right tube and ovary was due simply to the tendency of the appendix to descend into the pelvis and to become adherent to the tube. In most of these cases such changes will be found to have occurred in the walls of the appendix that its removal is indicated.—Saenger thought that it was important to inspect the appendix in all cases of inflammatory disease of the adnexa. The former might contain a pus-focus even when there were no evidences of peri-appendicitis.—Zweifel raised the question whether purulent salpingitis could arise from the migration of colon-bacteria or streptococci from an adherent suppurating appendix, without actual rupture of the abscess into the tube, because it had been proved that these micro-organisms did not cause suppuration when brought in contact with the healthy tubal mucosa.—Krönig thought that when appendicitis and pyosalpinx co-existed it was exceedingly difficult to discover the origin of the process. (Abstract in American Journal of the Medical Sciences, July, 1900.)

CANCER, VAGINAL HYSTERECTOMY FOR.

(From Mrs. Scharlieb's paper.) Probably the one fact that does most to discredit vaginal hysterectomy for cancer is that an attempt is often made to operate on cases in which (1) the disease has spread beyond the uterus locally; or (2) the disease has already infected the lumbar, iliac, and other glands; or (3) distant organs, such as the lungs or the liver, are also the seats of malignant disease; or (4) lastly some other grave constitutional state exists, such as diabetes or Bright's disease. If the operator does not carefully avoid such cases the immediate death-rate will rise, and the ultimate results will be equally unsatisfactory. It is absolutely necessary for us to remember that our duty to our patients, to ourselves, and to the operation demands attention to these and to other such limitations, and that brilliant operating is not identical with good surgery. In a series of 35 cases four proved fatal within a month of the operation, one died of kidney disease, one of shock after a long and difficult operation, and two of sepsis. It is easy to be wise after the event, but probably the one who had chronic interstitial nephritis should not have been submitted to operation, and in one of the other cases circumstances existed which rendered the operation unusually difficult. (British Medical Journal, September 15, 1900.)

CARCINOMA OF THE UTERUS VAGINAL, HYSTERECTOMY IN.

Dr. J. B. Deaver says that vaginal hysterectomy is an operation which presents no special difficulties in the class of cases to which it is applicable. It is applicable only in those cases where the carcinomatous process is confined strictly to the vaginal portion of the cervix, the cervical or uterine canal, and where the uterus is freely movable. In cases where there are adhesions fixing the organ, or where there is or has been inflammation or fixation of the appendages, the abdominal operation is safer, easier, and a more rational procedure. Any enlargement of the uterus vastly increases the difficulties of the operation and offers another objection to vaginal hysterectomy. (Journal of the American Medical Association, June 30, 1900.)

DISINFECTION OF THE HANDS.

(From Dr. Smyly's address in Obstetrics before the British Medical Association, 1900). If I were to state that where there had been no handling there would be no septic infection, I should not be very far from the truth. Leopold has clearly proved that patients who deliver themselves without any vaginal interference make a better convalescence than those who have been examined even with the most scrupulous antiseptic precautions. Experience, therefore, proves — what bacteriological investigation would lead us to expect — that an absolutely aseptic condition of the hands cannot be insured by any known process, and from this we learn :—(1) To avoid as far as possibe septic contamination. (2) To spare no pains to render our hands as innocuous as possible ; and (3) to restrict local interference within the narrowest bounds. The last of these includes not only unnecessary operative interference, but also needless vaginal examinations. We can limit the numbers of such examinations best by substituting for them external manipulations ; and, next to antiseptics, I consider this to be the most important advance in modern midwifery. By whom it was introduced or when I know not, but its systematisation and popularity we owe to Pinard, Credé, and Lepold. In 1888 Credé wrote as follows:—"Even the simplest manipulations may cause infection. It should therefore be laid down and taught as a fundamental principle that internal examination of parturient women should be altogether avoided or restricted within the narrowest possible limits; it can be very well replaced by external examination. To instruct their pupils as thoroughly as possible in this method is the present and future duty of teaching institutions. (British Medical Journal, August 11, 1900.)

DISPLACEMENTS OF THE UTERUS.—TREATMENT BY PESSARY.

The instrument should never be placed in the vagina until the uterus is in its normal position. I draw attention to this because I sometimes see cases where this golden rule has been disregarded. The pessary can never reduce a dislocation, but it will maintain the position when once it has been put right. Such practice may be compared to the application of splints without having previously reduced the fracture or dislocation. Only the other day I removed a pessary that was applied to a retroflexed uterus impacted by a small fibroid. It did no good and actually caused pain, and in similar cases may give rise to ulceration or other trouble. When a pessary is used, the case should return for observation from time to time. Sometimes, when I am satisfied, I let the patient go away for months, giving instructions to return should any discomfort arise. The form I use is that known as the Albert Smith pessary, made of vulcanite. The requirements are that when adjusted it should lie comfortably against the anterior wall, fitting neither too tightly nor too loosely. If it wabbles, or if it is not easily moved, it is a misfit. Sometimes I alter the shape, which can easily be done by passing the part one wishes to mould through a spirit flame, having previously smeared it with vaseline. It then becomes soft, and can be altered to the required shape; so the instrument can be made broader or narrower, or its curves can be increased. (From Dr. Way's paper in the Australasian Medical Journal, November 7, 1900.)

DISPLACEMENTS, TREATMENT OF UTERINE.

(By Dr. Frank, *Obstetrics*, June, 1900.) Anterior displacements are rarely pathological, and may only be considered so when they cause dysmenorrhœa, endometritis, or sterility. They do not offer, as a rule, a fruitful source for cures or for brilliant results obtained by medical or surgical means. The treatment of retro-displacements may be divided into that which is operative and that which consists of mechanical support by pessaries which have as their object the maintenance of the uterus in its normal position until such time as restoration in circulation shall have taken place ; until such time as by other appropriate treatment, such as douches, the administration of tonics, &c., the organ shall have returned to its normal size, the ligaments to their normal condition, and its position be maintained. No case of displacement can be cured by means of a pessary if there exists perineal laceration or an impairment of the perineal floor, and its use is absolutely contra-indicated in inflammatory disease of the appendages or in fixation of the uterus itself. Among the different operative procedures which have been proposed may be considered ventro-fixation, ventro-suspension, and the Alexander operation. (From abstract in Therapeutic Gazette, August 15, 1900.)

DRUGS IN GYNÆCOLOGY.

We are indebted to Dr. Murrell for urging the use of senecin, the extractive of senecio aureus, both in cases of amenorrhœa and dysmenorrhœa. The dose is from 2 to 6 grs. It may be given alone, or, according to indication, with hydrastia or hydrastinine. The latter drug I have found useful in congestive and spasmodic dysmenorrhœa, the more so if combined in administration with the bromides. Piscidia erythrina may be given in combination with both hydrastia, or extract of hydrastis, and extract of viburnum, in doses of from 1 to 2 grs. in dysmenorrhœa and menorrhagia. The use of the hydrastis canadensis in atonic vascular states of the uterus has now become so universal as to need little comment. Its crystalline active principle, hydrastine hydrochloride, is one of our most valuable astringents in uterine hemorrhage, either as a consequence of hyperplastic enlargements, congestion, hypertrophic or fibroid states, or in simple menorrhagia. A form I have found the most useful is hydrastine hydrochloride ⅓ gr., ergotine ¾ gr., cannabin tannas ½ gr., styticine ¼ gr., which can be conveniently given as a palatinoid. Sculcopine is a colourless extract of hydrastis canadensis, containing hydrastine, and is equivalent in strength to the fluid extract of hydrastis canadensis. (From Dr. McNaughton Jones' paper on "Surgical Gynæcology" in the Edinburgh Medical Journal, July, 1900.)

ECLAMPSIA, TREATMENT OF.

(By Dr. J. C. Hirst, *International Medical Magazine*, June, 1900.) As a rule, avoid interference with the course of labour until the os is fairly well dilated. Until then combat the convulsions. If it be then necessary or advisable to hasten delivery, it may be done by the application of forceps. Deep multiple incisions in the cervix, as advised by Duhrssen, are not to be recommended. *Prognosis.*—As regards the mother, statistics are reported giving a mortality varying between 3·3 and 25 per cent. The average, the world over, can be put at about 18 to 22 per cent. The mortality for the infant is 50 per cent. (From abstract in Therapeutic Gazette, September 15, 1900.)

ENDOMETRITIS, ACUTE SENILE.

L. H. Dunning (*Am. Journ. Obst.*, N. Y., July, 1900) gives the history of two cases of the above in which he performed hysterectomy. He made the following conclusions: (1) The lesion in both uteri was an acute inflammatory process. It may be properly denominated acute senile endometritis. (2) The characteristic pathological features are (*a*) thickened endometrium, devoid of its epithelial layer; (*b*) increased vascularity, with peculiar arrangement of small blood vessels; (*c*) small round-celled infiltration; (*d*) diminished glandular elements, while a few glands are to be distinctly seen, in many of them the epithelium is desquamating and their lumen filled with granular débris, and may be said to be functionless; (*e*) degeneration of the coats of the arteries of the muscular layer: in one specimen the degenerative process was hyaline; (*f*) in no specimen was there any increase of connective tissue. (3) The mucosa of both cervix and body is affected, but is more marked in the body of the uterus. (4) The infiltration extends into the muscular tissue, but is more marked in the mucosa. (5) In both cases one uterine appendage was diseased and one ovary was cystic. (6) The microscopical appearances bear but little resemblance to those found in interstitial endometritis. (7) In one case the acute inflammation seems to have developed without any previous chronic inflammation, while in the other it may have been an acute exacerbation of a chronic inflammation. (8) In one case the uterus was in normal position, while in the other it was markedly retroverted, and in neither was there marked stenosis of the internal os; yet there was considerable accumulation of fluid within the uterine cavity in both cases. (9) The presence of diseased appendages in both cases, and of slight pelvic peritonitis in one, indicates that the process is prone to extend beyond the limits of the uterus; and if such extension is demonstrable by examination, extirpation of the uterus and appendages is indicated. (From Dr. Haultain's periscope in the Edinburgh Medical Journal, December, 1900.)

FLAT PELVES, VERSION OR FORCEPS IN.

(From Dr. Clarence Webster's paper, *American Journal of Obstetrics*, July, 1900.) The following considerations are urged :—(*a*) Against version : (1) that it introduces the usual risks of breech delivery (asphyxiation, extension of the head, injuries to arms or neck) ; (2) that it is impossible to bring down the child in the proper axis of the pelvis after version ; (3) that version becomes impossible or dangerous after the membranes have been for some time ruptured. (*b*) In favour of forceps : (1) that the fœtus is not exposed to the risks of head-last delivery ; (2) the manipulative risks are not so great as in version ; (3) that forceps can be applied long after dilatation of the cervix and rupture of the membranes ; (4) that the fœtus may be withdrawn more nearly in the pelvic axis ; (5) that in the widened transverse diameter of the brim the blades of the forceps may usually be applied to the head without great difficulty ; (6) that the grip of the head sufficient to prevent slipping does not cause dangerous compression ; (7) that the compression produced causes a compensatory vertical, and *not* a transverse bulging of the head. It will be seen, therefore, that in flat pelves Dr. Webster is a firm believer in the advantages of axis-traction forceps combined with Walcher's position, over version, and this is certainly the tendency of practice at the present time. (From Dr. Arnold Lea's abstract in the Medical Chronicle, September, 1900.)

GESTATION, ECTOPIC.

Dr. E. O. Croft, Leeds, read a paper before the Gynæcological Society on "An Anomalous Case of Ectopic Pregnancy, probably Ovarian." The history and physical signs pointed to a diagnosis of some form of extra-uterine gestation, and the sac and its contents found entire were removed by abdominal section. There was free bleeding from rupture during operation, and, although it was soon controlled by ligature of the broad ligament, the patient did not rally, and died a few days afterwards. The autopsy revealed an absence of peritonitis, and the pelvic organs were removed for further examination. The sac, before rupture, contained the complete ovum—fœtus of about four months' growth, with placenta, membranes, and amniotic fluid. There was no blood or clot in the sac. Its relations were those of an ovarian tumour with short pedicle. The surface of the cyst contained follicles (? Graafian), and no separate structure corresponding to an ovary was evident on the same (right) side. The microscopic evidence of ovarian tissue in the wall was uncertain. The Fallopian tube was present and uninjured, the fimbriated end free and patent, and the layers of the mesosalpinx undisturbed. The uterus was intact, and the appendages on the opposite (left) side were normal. The possibility of the pregnancy being ovarian is suggested. (Medical Press and Circular, November 14, 1900.)

HEMORRHAGES, POST-CLIMACTERIC.

In both hospital and private practice I make it a rule to recommend a bimanual examination in all cases of excessive uterine hemorrhage during the menopause, and in all cases in which hemorrhage, be it scanty or profuse, sets in after an interval of six months or more. Where the time which elapses between the menopause and the onset of uterine hemorrhage amounts to a year or more, I think the medical man, once he is aware of the fact, who does not insist on an examination being made by himself or by a specialist is guilty of gross negligence. Such neglect is too common. It is one of the chief reasons why gynæcologists so seldom see malignant disease of the uterus at a stage early enough for radical operation. To give an idea of the relative frequency of post-climacteric hemorrhage to the other gynæcological complaints, I may say that out of 470 cases under my care at the Samaritan Hospital for Women during the last three years 16 were of this kind. These include nine cases of cancer of vaginal portion, one of cancer of cervix and body, one of adenoma malignum of body, two of cervical mucous polypus, one of fibroid, one of ovarian cyst, one of cystic ovary with chronic pelvic peritonitis. Out of a considerable number in my private practice, I may mention two of adenocarcinoma of the corpus uteri, and one of mucous polypus of the corpus uteri. (From report of Dr. J. Edgar's paper read before the Glasgow Medico-Chirurgical Society, August, 1900.)

HEMORRHAGE, THE AFTER-TREATMENT OF POST-PARTUM.

When the hemorrhage has ceased the subsequent anæmia demands most careful treatment. The patient should be kept quiet, her head low, the lower part of the bed being raised to facilitate the weak circulation. Subcutaneous injections of ether and strychnine are most useful, but our sheet anchor is saline transfusion, experiments having shown that animals bled almost to death will recover if a normal saline solution is introduced into the circulation. If the heart gets something to act on it can be kept going until the natural vascular fluids have time to form again. The saline solution (one teaspoonful of salt in a pint of warm sterilised water) may be introduced direct into the veins, and this is the best method, but it takes time, and often cannot be done without skilled assistance. On the other hand, the solution may be given by enema, or what is, I think, better, into the tissues by means of a large hollow needle and funnel, which are connected by tubing. Half a pint may be injected into the tissue under each breast. The amount of saline fluid to be used or re-used depends on the patient's condition—2, 4, or 6 pints. It should be injected slowly at a temperature of 98°, and we should continue it until the pulse gets slower and increases in volume. In addition to these measures in the treatment of the anæmia, the patient should be encouraged to take nourishment (such as concentrated meat, juices, milk, &c.), which is quickly absorbed. (From Dr. Byer's paper in the British Medical Journal, September 15, 1900.)

HOT BATHS IN THE DISTURBANCES OF THE MENOPAUSE.

Gottschalk (*Sem. Méd.*, June 13, 1900) states that hot saline baths, at a temperature of about 40° C., lasting for about twenty minutes, and taken every evening at bedtime, constitute an excellent means of combating the night attacks of heat and sweating from which so many women suffer at the time of a natural or post-operative menopause; the favourable effects are usually manifest at the end of the first week, and twenty-six to twenty-eight baths are sufficient to cure the trouble altogether. (British Journal of Gynæcology, August, 1900.)

HYSTERECTOMY, PORRO-CÆSAREAN.

[Dr. Amand Routh thus discusses the various procedures :] When it has been decided that a viable child has to be delivered from a living mother by abdominal section, the question at once arises, what particular method of operation should be adopted? All cases would then resolve themselves into three groups: (1) those were hysterectomy (Porro or panhysterectomy), with retention of one or both ovaries, is absolutely indicated, (2) those where a Sänger-Cæsarean operation (with or without sterilisation) is absolutely indicated, and (3) those capable of being treated by either operation. Among the first group requiring hysterectomy the following may be enumerated:—Obstructing fibroids; cicatricial stenosis of the vagina where the lochia cannot escape; septic endometritis; decomposed fœtus (osteomalacia) owing to the fact that removal of the appendages is often curative); uterine hemorrhage from uterine inertia during Cæsarean section; after much previous manipulation of the uterus in attempts to extract per vaginam. Sänger-Cæsarean section without sterilisation is, on the other hand, absolutely indicated, instead of a "Porro," where it is considerd desirable for the woman to have a chance of another child, and Sänger-Cæsarean section with sterilisation is required (?) in cases of cervical cancer, when the supra-vaginal cervix is involved. There only remains, therefore, a third group of cases where a Cæsarean section with sterilisation is usually done, but where it would, in my opinion, be quite as reasonable to do a modern "Porro." This third group includes all cases of sufficient pelvic contraction, and it is in such cases that the relative value of a modern "Porro" operation, as compared with a sterilising Sänger-Cæsarean operation, demands serious consideration. (Transactions of the London Obstetrical Society, xlii. part iii. 1900.)

INSANITY AND OPERATIVE GYNÆCOLOGY.

[Dr. R. M. Bucke thus concludes his paper :] I want to say that we never in any case operate for insanity. We deal with our patients just as if they were sane. A woman is admitted to the asylum. She is sick. We find on examination that she has a subinvoluted uterus, an ovarian tumour, or a lacerated perineum. We remedy the defect, if we can, whatever it is, knowing well that her general health cannot be brought up to par until that is done. Had the patient been sane, just sick in the ordinary sense, the operation would equally have been required and we should have done it. Or the woman may be an epileptic and her recovery from her insanity may be hopeless. It makes no difference—we perform whatever operation (if any) is indicated by the woman's physical condition. It is for that we operate ; if her mental condition is also improved or restored we are glad, though we did not operate for that. But even if a sane woman has an ovarian cyst or a retroverted uterus or a torn perineum and is cured by an operation, is not her mental condition improved ? In both cases the mental improvement or recovery, if it occurs, is a very natural result of relief from physical disability, disease and suffering. (Medical News, August 11, 1900.)

INSANITY AND THE GENITAL ORGANS.

(From Dr. G. H. Noble's paper.) The gynæcologist does not operate for insanity. As regards the form of malformations, diseases, and injuries to the female genital canal, accidents incident to childbearing seem to occur most often, next infection and preputial adhesions ; masturbation and puerperal insanity are recorded as commonly found. The remarkably large proportion of good results from operations is a striking feature even in cases of chronic mania. A few instances are given with no results, but such may be expected when the best success does not exceed 40 per cent. of cures and 26 to 30 per cent. of improvement. One is likely to meet with all failures when he does only a limited number of operations. It is not denied, however, that patients are relieved of physical suffering and distress. Absence of vagina, uterus, and ovaries is mentioned several times. I have noticed in my own work that palpable external deformities are more frequently associated with insanity than deformities of the internal genitalia. Obstetric lacerations are very potent factors for evil, and should not be neglected. Simple displacements of the uterus play a considerable rôle as a contributing factor ; this is due, perhaps, to the fact that many women are subjects of these accidents, and therefore that more with hereditary tendencies must necessarily be encountered. Often it is hard to realise that a simple displacement can have such an effect, but when immediate recovery follows replacement, as I have seen, we are constrained to ascribe it to some contributing influence. (Journal of the American Medical Association, September 1, 1900.)

INTRA-UTERINE DOUCHE.

Dr. E. P. Davis advocates the use of sterile salt solution in preference to carbolic acid or other phenyl derivatives in cases where much depression is present and loss of blood has occurred, and considers that mercurial solutions should never be used in the uterus. He prefers to use the douche curette without anæsthesia, both for exploration and cleansing purposes, since he does not consider the finger long enough for the purpose, and uses a tube which is apparently a modification of Budin's. With regard to the use of the intra-uterine douche in hemorrhage, he remarks that it is not easy to maintain asepsis in these cases, and very rightly emphasises the necessity of having every preparation made in case of bleeding occurring, so as to minimise the risk of infection as much as possible. He also recommends the use of the iodoform or sterile gauze-tampon as an adjuvant after the use of the douche for hemorrhage. If retention of a portion of placenta or membrane is suspected, he advises the use of the douche curette for its removal should hemorrhage supervene, this being a fertile cause of secondary post-partum bleeding. (From periscope in the Bristol Medico-Chirurgical Journal, June, 1900.)

LABOUR COMPLICATED.

Dr. Shelley relates the following case :—A young woman, primipara, unmarried, aged 19, was seized with labour pains. On examination the os was found to be dilated to the size of half-a-crown. An ordinary occipito-anterior was diagnosed, and as this was her first baby, and duty called elsewhere, she was told I would call later on. Five hours later I again examined her, and to my astonishment found a pear-shaped mass protruding from the vagina. This, I discovered, was a fibroid polypus, and as she seemed in great pain, and was evidently getting very weak, I sent for a local gentleman to give an anæsthetic. The polypus was removed, and then the head could be distinctly felt, firmly wedged in. On either side could be felt something which gave the impression to the finger like nothing more than a blancmange. In the examination a quantity of white, clear, jelly-like substance came away on the finger. After a consultation it was decided to get away as much as possible and apply forceps. This was done, and it was then discovered that there was some great obstacle to natural labour. The masses on either side of the head were removed, and proved to be polypi. After this had been done the child was born quite easily. A difficulty then presented: the uterus would not contract down for a long time—*i.e.*, two hours—and felt more like a bunch of grapes than anything else. (From Dr. Percy Shelley's paper in the St. Bartholomew's Hospital Journal, November, 1900.)

LABOUR IN COMPLETE OCCLUSION OF THE OS UTERI.

[Dr. Robert Jardine reports two cases and refers to another two cases, the following being taken from his remarks :] When the os is completely occluded the condition may be mistaken for complete dilatation with unruptured membranes. Another condition may be mistaken for this, viz., when the anterior lip of the cervix is stretched over the head, while the undilated os is drawn up behind near the promontory. The position of the os can generally be made out from a small depression being present. There is some risk of rupture of the uterus occurring. If rupture were to occur, it would likely be the cervix which would be torn away from the uterus. *Treatment.*—If the adhesions cannot be broken through with the finger-nail, a small crucial incision should be made at the point where the os was originally situated. If there is no depression to indicate where the os should be, the incision should be made near the centre of the protruding cervix. The case may be left to nature, or rapid dilatation and immediate delivery carried out. In three of the cases immediate delivery was effected, while in the fourth it was left to nature for about twelve hours, and in the end we had to interfere, as the cervix was tearing into one of the lateral fornices. If there is much tearing of the cervix, it should be repaired immediately after delivery. In none of my cases was this necessary. In the three of them examined some time after delivery, the cervix presented the ordinary appearance without any marked laceration. (Glasgow Medical Journal, October, 1900.)

MISCARRIAGE, CAUSATION OF.

The causes of immature pregnancies are numerous, and have been variously classified by different writers. Thus, in a recent text-book on midwifery one finds the following :—(1) *Primarily fœtal* : Affections of membranes and cord, and of fœtal placenta (*e.g.*, vesicular mole, hydramnios). Affections of fœtus or embryo. (2) *Primarily maternal* : Local affections, decidua (hemorrhages and degeneration), and placenta prævia. Uterus.—(New growths, incarceration of retroverted uterus, pregnancy in one horn of a double uterus.) Surrounding organs.—(Tumours interfering with growth of uterus, adhesions.) General affections.—General diseases of mother.—(Pyrexia ; anæmia, as from pernicious vomiting ; starvation ; zymotic poisons ; head ; diabetes ; nephritis.) Reflex causes.—(Mental shocks ; convulsions, including eclampsia, chorea, tetany ; operations ; plugging.) Drugs.—(Alcohol, in chronic alcoholism ; and very doubtfully, ergot, savin, and digitalis.) (3) *Mechanical* : Introduction of foreign bodies into the uterus ; injuries to the vagina (action mainly reflex) ; rupture of membranes. (From Dr. Handfield-Jones' paper in the Physician and Surgeon, June 14, 1900.)

OS UTERI, ARTIFICIAL DILATATION OF.

Dr. Hans Meyer-Ruegg (*Correspondenzblatt für Schweizer Aerzte* of August 15, 1900) gives a description of a newer instrument, intended for use in dilating the os during labour. This has been devised by Dr. Schwarzenbach, and is made entirely of metal, so that it cannot perish with age and is not likely to break during use, two accidents to which all "rubber goods" are unfortunately prone. The instrument, which is called the "tulpe," is best described by saying that it is like a flower with four petals on a stalk. The head of the child fits into the hollow of the flower, whose petals or leaves are applied between the head and the uterine wall. Traction upon the stalk causes the outer aspect of the blades or petals to dilate the cervix. The blades are separate, each leaf with its own stalk. They are applied separately and then adjusted. The author considers that the idea is good, but not quite practical, as he has found considerable difficulty in handling the "tulpe" in the cases in which he has tried it. Once applied, however, it worked well. The idea is not new, and similar instruments have been constructed previously. (From Dr. Fothergill's summary in the Practitioner, December, 1900.)

OVARITIS, SCLEROCYSTIC.

(By Dr. A. Fraikin, *Ann. de Gynæcologie*, April, 1900.) (1) *Functional symptoms.*—Menstrual troubles are always present, and menorrhagia, with irregular bleeding, is especially frequent. There is usually some leucorrhœa, due to accompanying metritis. Menstruation is generally painful. This pain is felt usually in the ovarian area, and may radiate into the lumbar region, down the legs, and even to the coccyx and perineum. At first pain is only felt just before and during menstruation, but later it may become constant. This pain must be distinguished from the colicky spasm of salpingitis and painful uterine contractions due to the expulsion of clots from the uterus. Dyspareunia is often present, and at times painful defæcation is met with. (2) *Physical signs.*—The bimanual examination reveals a sensitive zone in the iliac region, with rigidity of the recti on pressure. The ovary is felt somewhat enlarged, and may be prolapsed or adherent. Anæsthesia is often necessary to make a thorough investigation. There is usually some disturbance of the general health, especially digestive troubles, palpitation and nervous symptoms, often of a neurasthenic type. In some cases hysteria may be present and thus complicates the diagnosis. M. Fraikin considers the relation of this disease to hysterical manifestations, a subject which has been widely discussed, and which presents great difficulty. He is of opinion that hysterical troubles are usually secondary to the diseased condition of the ovary. (From abstract in Medical Chronicle, June, 1900.)

PLACENTA, THE DELIVERY OF THE.

[Dr. Henry Jellett makes the following propositions :] (1) That the method of effecting the delivery of the placenta by external manipulations, as opposed to its manual removal or its delivery by traction on the funis, was originated in Dublin. (2) That Credé's method, when originated *de novo* in Germany, was identical in principle with the Dublin method, and that it rapidly came to assimilate itself to the Dublin method in its most important details. (3) That, consequently, there is no difference between the Dublin method and Credé's method, and that, inasmuch as the method originated in Dublin many years before the time that Credé discovered it for himself, its name is and ought to be "The Dublin Method." (From Dr. Jellett's paper in the Dublin Journal of Medical Science, June, 1900.)

PREGNANCY AND MALARIA.

Mr. F. H. Edmonds, F.R.C.S. (*Journ. of Tropical Medicine*, May, 1900), considers that simple intermittent fever has no effect upon conception, and, if the attack is mild, no influence on either the mother's life or that of the child. According to the author, remittent fever has the same effect on pregnancy as simple intermittent fever, differing only in degree, the fever being usually higher. Abortion is much more common in remittent fever, and is often followed by severe hemorrhage. A malarial cachexia, however, does not seem to be any bar to conception or to interfere with the course of pregnancy, probably in consequence of the usual absence of high temperature. It is in the later period of pregnancy, however, that the greatest danger arises. With the onset of the paroxysms, whether of intermittent or of remittent fever, the fœtal movements become very strong and are accompanied by severe pain. It not infrequently happens that after one or two paroxysms uterine cramp ensues, which limits the fœtal movements till they finally cease, and after a while a further paroxysm results in the expulsion of a fœtus bearing evidence of intra-uterine death. This is almost sure to be the case if the temperature rises much over 104 deg. F. The appearance of bilious remittent fever during or just after parturition is the most dangerous condition for the mother. The author strongly urges the early use of quinine (five grains every four hours is his own prescription) in pregnant patients afflicted by malarial disease, especially during the second period of pregnancy. It seems to us that any supposed danger of abortion from the quinine is most probably based upon a fallacy, and that, in cases in which abortion has followed its use when administered for malarial disease, the malaria and not the quinine has been responsible. In that case it is likely that an examination of the fœtus would have shown indications of intra-uterine death some few days, possibly prior to the expulsion. This point is well worthy of the attention of practitioners in malarious districts. (From leading article in New York Medical Journal, July 14, 1900.)

PREGNANCY AND MYOFIBROMATA.

(By Dr. A. J. C. Skene, Brooklyn, *Amer. Gyn. and Obstet. Journ.*). A careful study of several cases has enabled the author to classify them as follows :—(1) Sub-mucous tumours, large or small, cause sterility ; (2) small sub-peritoneal do not always cause sterility, or complicate child-bearing to a dangerous degree ; (3) Interstitial tumours of any size and large sub-peritoneal growths closely connected with the uterus, are most dangerous, because they predispose to miscarriage and render delivery always difficult, often impossible, and always exceedingly dangerous. Class 2 require attention in the early stages of pregnancy; Class 3 demand hysterectomy, and this in spite of the fact that a case occasionally survives when left to nature. As to the time to operate: generally as soon as convenient after the discovery of the pregnancy; though out of consideration for the child it may be delayed until there is evidence of the death of the fœtus. A case illustrative of this type is given, recovery following operation. (From abstract in Quarterly Medical Journal, 1900, p. 69.)

PREGNANCY AND TUBERCULOSIS.

M. S. Bernheim, in the Obstetrical Section of the International Congress of Medicine, *La Presse Médicale*, August 22, 1900, draws the following conclusions from his own personal observations and the writings of others:—(1) Pregnancy does not provoke fatal tuberculosis in those predisposed to it. Latent or old tuberculosis is not revived by a single simple pregnancy. In predisposed persons the younger the patient the more likely is pregnancy to provoke tuberculosis; hence it is wise for young girls not to marry too early if there is any chance of their being predisposed to tuberculosis. (2) Tuberculosis is much more aggravated by pregnancy if the lesions are gross and well marked. (3) If a single pregnancy sometimes has no effect on a dormant tuberculosis, it is not the same with multiple pregnancies, which are always disastrous. (4) The puerperium is always to be dreaded in phthisical patients, and suckling should be prohibited. (5) In all cases where tuberculosis is aggravated during the first weeks of pregnancy it is sound practice for the physician to induce premature labour. (6) The influence of paternal tuberculosis can practically be considered as *nil*. (7) Tuberculosis in women is a frequent cause of abortion. (8) After labour the baby ought always to be removed far from sources of contagion, and if placed in suitable hygienic surroundings has a fair chance of growing up healthy and strong. (Dr. Stevens's abstract in Treatment, November, 1900.)

PREGNANCY, DIET IN.

(From Dr. Edward P. Davis's paper.) The diet of the patient should be as nearly as possible milk, fruit, and bread. If heartburn be annoying, milk may be diluted with any carbonated water with advantage. In some cases it should be partially peptonised. Buttermilk is exceedingly useful with those who can take it. In my experience the majority of women in comfortable circumstances can limit the consumption of meat during the latter two-thirds of pregnancy to once daily with advantage. Fish, oysters, white meat of poultry, and mutton or lamb are to be preferred when meat is taken. The alkaloids of tea and coffee check excretion very markedly with some women. Coffee is especially injurious to those who suffer from chronic intestinal indigestion. Alcohol in toxæmia is not indicated but injurious. The mistake must not be made in dealing with these patients so to limit the diet as to reduce strength. It often requires considerable perseverance and attention to induce the patient to take sufficient milk. The skilful preparation of milk foods such as junket, koumiss, and milk puddings is of great assistance. When thoroughly ripe fruit is not available, fruit should be stewed or baked, and when fresh fruit cannot be obtained, dried fruits and those put up with little sugar should be used. The use of water in toxæmia deserves especial mention. (Medical Record, October 20, 1900.)

PREGNANCY, THE TREATMENT OF CANCER OF THE CERVIX IN.

In the *Monatsschrift für Geburtshülfe und Gynäkologie*, Band ix., Heft 1, 1899, Mertens discusses this subject, reviewing its literature, and adding an interesting case of his own. His patient, aged 45 years, had been previously healthy, and had borne nine children. During the present pregnancy she was well until a sudden hemorrhage occurred. This ceased when she resumed a recumbent posture. On examination the patient was about 36 weeks advanced, and upon the posterior lip of the uterus was a nodule of cancer about the size of a hen's egg. The cervix was infiltrated through a considerable part of its extent, but the surrounding tissue seemed to be free. As the patient was so near term, the child being wholly viable, labour was induced. The child and appendages were easily delivered spontaneously. Eight days after the birth of the infant the uterus was removed by vaginal hysterectomy. The patient made an uninterrupted recovery. [The removal of the cancerous uterus during pregnancy is best accomplished by vaginal hysterectomy at the two extremes of pregnancy : during the early months, when the tumour is sufficiently small to be removed without difficulty, and near the end of pregnancy, when the child has been removed, and the recently emptied womb may also be delivered through the vagina. Before the child is viable and after the first months of pregnancy, the majority of operators prefer to open the abdomen and to remove the entire uterus unopened. Infection seems to be best avoided by this method, and the results have been good.] (From Dr. Edward P. Davis's periscope in the American Journal of the Medical Sciences, July, 1900.)

RETRO-DISPLACEMENT WITH GRAVID UTERUS.

[Dr. Munro Kerr thus concludes his paper :] Undoubtedly the diagnosis between this condition and an extra-uterine pregnancy is often difficult. Indeed, judging by the reported cases the symptoms may be almost exactly similar. The fact, however, that with extra-uterine pregnancy one usually gets a history of irregular discharges of blood, that the retention of urine is seldom so complete, that the contour of the sac is less uniformly smooth, and that the cervix is seldom so much displaced upwards, will usually clear up the diagnosis. Barnes, in his "Lectures on Obstetric Operations" (fourth edition), speaking of the subject at p. 276, lays special stress on the position of the cervix. He says :—"One general fact of great service in forming a diagnosis is this : Almost all bodies which get into Douglas's pouch come from above, and so push the uterus not only forwards but at the same time downwards, thus bringing the os uteri within easy reach and pointing downwards. On the other hand, retroversions of the uterus lift the os upwards and tend to throw it forwards." Theoretically that may be correct, but in practice it is not always so, as witness Barbour's case, where the cervix was "above reach," and the case I have reported, where it was distinctly higher than usual. The irregular discharges of blood—so helpful in the differential diagnosis, as pointed out by Barbour—are not always present, as in my case they occurred only after manipulative attempts at replacement. Undoubtedly the point that is of the greatest importance in the diagnosis of obscure cases is that with extra-uterine pregnancy the retention of urine is never so complete as with a retro-displacement. (Transactions of the London Obstetrical Society, p. 154.)

RETRO-FLEXION OF GRAVID UTERUS

Dr. W. J. Sinclair said, before the Obstetrical Society of London, that the striking constant feature was irritability of the bladder, with more or less retention of urine. The special method of treatment advocated was extremely simple. It consisted essentially in the introduction of a watch-spring pessary, care having previously been taken to empty the bowel and bladder. After the introduction of the pessary, if the patient was made to rest on her side, lying over with her face downwards as far as she could with comfort, it would be found that the action of the pessary alone restored the uterus to its normal position in a few hours. Illustrative cases were given. The whole number of cases in which the method of treatment had been tried by the author was 15. These had been consecutive, and in all the method of treatment had been successful. Abdominal section or any severe method of treatment of retro-flexion of the gravid uterus was deprecated. Ventrifixation after abortion and involution was recommended in cases of adherent retro-flexed uterus. (From report in the British Medical Journal, December 15, 1900.)

VENTROFIXATION.

Graefe, Halle (*Monats. f. Geb. u. Gyn.*, Bd. x., S. 1), does not operate in fixed retroflexion until he has found it impossible, after 10 per cent. ichthyol glycerine tampons, hot vaginal irrigation and hot rectal injections, &c., to restore the uterus to its normal position and to keep it there by pessary. This paper is based upon twenty-one operations, thirteen for fixed, eight for moveable retroflexion. His practice is to insert the uterine wall through two stitches, 1 cm. apart, which are removed in fourteen to sixteen days. In his later operations he introduced his sutures, as Kelly proposes, at the backside of the uterus below the fundus, so as to suspend the organ to some extent. He greatly prefers absorbable stitches, and does not think that the operation when performed in Leopold or Kelly's way causes any impediment to pregnancy or delivery. His patients were led to seek advice by menstrual disorders, dysmenorrhœa, menorrhagia, sacral or hypogastric pain, which were always much relieved, and in a large majority of cases completely cured by the restoration of the uterus to its normal position. In one woman only the operation failed to give any relief, she was an hysterical separated from her husband. One woman died after but not in consequence of the operation, the rest got well. Graefe concludes that ventrofixation must be admitted as at least as good as any modification of vagino-fixation. The disadvantage of the abdominal wound and the possibility of subsequent hernia is more than balanced by the clear view afforded by the conditions in the smaller pelvis which are particularly apt to be complicated in fixed retroflexion ; the separation of the adhesions and the exact control of hemorrhage are under the operator's eye. (British Journal of Gynæcology, May 1900.)

Medicine.

GENERAL MEDICINE AND THERAPEUTICS.

ART. I.—ANTI-TYPHOID INOCULATIONS.

By A. E. WRIGHT, M.D. Dub.,
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By the kind permission of Surgeon-General Jameson, M.D., C.B., I am enabled to publish the following officially collected statistics with regard to the results obtained by the anti-typhoid inoculations in the military garrison during the siege of Ladysmith.

TABLE I.—*Results obtained by the Anti-Typhoid Inoculations in the Case of the Officers and Men of the Military Garrison during the Siege of Ladysmith.*

—	Number under observation.	Number of cases of enteric fever.	Proportion in which attacks stand to total number of men in group.	Number of deaths from enteric fever.	Proportion in which deaths stand to total number of men in group.	Proportion in which deaths stand to total number of attacks in group.
Not inoculated ...	10,529	1489	1 in 7·07	329	1 in 32	1 in 4·52
Inoculated	1,705	35	1 in 48·7	8	1 in 213	1 in 4·4

In addition to the above summary of results, obtained on officers and men combined, the figures relating to officers separately are also given in the official statistics. With regard to these last it may be pointed out that quite apart from the fact that these figures relate to a very small group of persons (44 in number) the figures considered as statistics are probably fallacious owing to the fact that the group of inoculated officers (consisting as it must have done almost exclusively of young men at the most susceptible age) is compared with a group of officers which includes all the older and less susceptible men and the men who have already had typhoid fever. The figures referred to are none the less subjoined with a view to conforming to the arrangement adopted in the official statistics.

TABLE II.—*Results obtained by the Anti-Typhoid Inoculations in the Case of the Officers of the Military Garrison during the Siege of Ladysmith.*

—	Number under observation.	Number of cases of enteric fever.	Proportion in which attacks stand to total number of men in group.	Number of deaths from enteric fever.	Proportion in which deaths stand to total number of men in group.
Not inoculated	171	43	1 in 4	5	1 in 34·2
Inoculated	44	9	1 in 5	2	1 in 22

In drawing inferences from the figures in this table it is to be borne in mind that the erroneous inclusion or exclusion of a single case, or a difference in the event in the case of any patient included in the category of the inoculated, would sensibly alter the present aspect of the table.

The same circumstance must be borne in mind in connection with any attempt to base a comparison of the case mortality in inoculated and uninoculated upon the figures in Table I. For it will be manifest that in no circumstances can an estimate of case mortality be safely based on a series of only 35 cases, and least of all would it be permissible to do this under conditions such as those of Ladysmith during the siege, where many other factors in addition to the severity of the attack must have determined the favourable or unfavourable event of the cases. It would, however, appear probable, in view of the figures given in the table, that the case mortality was not influenced by the inoculation. On this subject further light must be awaited, especially as it would appear from certain statements which have emanated from the seat of war that the disease generally runs a milder course in the inoculated.

The question of case mortality is, however, quite subordinate in interest to the question as to how far the figures presented in Table I. enable us to estimate in quantitative terms the reduction in incidence and mortality which can be achieved by the process of anti-typhoid inoculation.

To answer this question it will be necessary to inquire, on the one hand, whether there were any circumstances other than inoculation which may have tended, either to diminish the incidence of typhoid fever among the inoculated in Ladysmith, or unduly to swell the roll of typhoid fever among the inoculated.

In connection with the former question the only point which comes up for consideration is the question as to whether the inoculated were more favourably circumstanced in the matter of the sanitation of their camps than the uninoculated. No detailed data for the determination of this question are at present available. But this will be seen to be unimportant, in view, first, of the fact that there was in each regiment and corps an uninoculated majority who must equally with the inoculated have benefited or suffered from the sanitary or insanitary condition of the various camps; and, secondly, of the fact that the inoculated who were attacked were drawn from 12 different corps and regiments. It may therefore be assumed that the inoculated and uninoculated were equally exposed to the risk of infection.

The question as to whether there were any circumstances which tended unduly to swell the roll of typhoid fever among the inoculated is one which requires to be treated at somewhat greater length. The following points must be kept in view:—(1) So far as is known the men who are set down as inoculated were with hardly an exception only once inoculated. It seems probable from the fact that only two cases among twice inoculated persons have as yet come to my knowledge that second inoculation confers a considerable additional protection. (2) It is possible that certain of the officers who are set down as inoculated may have been inoculated with anti-typhoid serum and not with a vaccine consisting of a sterilised typhoid culture. Two or three instances have been reported to me where this error was committed in the case of officers proceeding to South Africa. In the statistics now in question the date and place of inoculation are in the case of five out of the nine officers attacked set down as unknown. (3) It is possible in the case of the men as distinguished from the officers that re-vaccination against small-pox, which, like anti-enteric inoculation, was in many cases carried out on board the transports, may in certain instances have been confused with the latter inoculation. Instances of this confusion have already several times come to my knowledge. (4) Lastly, it is possible that owing to the exigencies of military service or owing to other reasons the full prescribed dose of typhoid vaccine may not in all cases have been injected. Instances of the employment of the vaccine in fourfold reduced doses have come to my knowledge. It is conceivable, but there is nothing either to support or rebut the suggestion, that some reduction of the dose may have been found necessary in the case of the Liverpool Regiment, which was inoculated (presumably, as in the case of other regiments, only very partially inoculated) at Ladysmith on the eve of the outbreak of hostilities. At any rate, it is noticeable that this regiment furnished 13 cases of enteric fever among the inoculated men, whereas the whole rest of the garrison of Ladysmith furnished only an equal number of such cases.

In view of the above points, regarding which there is not at present any information available, it is at present impossible to determine precisely to what extent the inoculated were protected by inoculation. But the results set forth in Table I. would appear to be distinctly encouraging, inasmuch as they show that the proportion, on the one hand, of attacks, and on the other hand of deaths, from typhoid fever was seven times smaller in the inoculated than in the uninoculated. And it may be borne in mind that if the number (no doubt a considerable one) of men who had previously suffered from typhoid fever had been subtracted from the number of the uninoculated, as might quite legitimately have been done, the statistics would have borne an even more favourable aspect.—*The Lancet, July* 14, 1900.

2.—TYPHOID FEVER.

By B. D. GILLIES, M.D.,
Senior Resident Physician, Royal Victoria Hospital.

[The following interesting synopsis is taken from Dr. Gillies' paper. The case of suppurative cholecystitis was operated upon, and recovered. One of the two cases of perforation was also operated upon, but the patient succumbed ten hours afterwards.]

During the year 1899, there were treated in the wards of the Royal Victoria Hospital ninety-eight cases of typhoid fever, sixty-five males and thirty-three females. Of these cases eighty-six were treated to a conclusion; of the remaining twelve cases several were cured, the others are convalescent. They are not included in the present report. The mortality was higher this year than any other since the hospital opened, there being seven deaths, or 8·16 per cent. Death resulted in three cases from hemorrhage, one case from hemorrhage and perforation, one case from perforation, and in two cases from profound intoxication. On an average, the patients were admitted on the seventh day of the disease. The following data are the points of interest :—

Age.—The average age of all the patients was 23 years, the youngest 3½ years, and the oldest 58. Arranged in decades they are as follows :—Under 10 years, four cases ; between 10 and 20, twenty-one cases ; between 20 and 30, forty cases ; between 30 and 40, sixteen cases ; between 40 and 50, four cases ; over 50, one case.

Duration of cases.—The average number of days in the hospital was 39·5. The average duration of fever was 24·6 days. The longest period of fever was fifty-eight days. The shortest period of fever was eight days.

The symptoms were as follows :—

Onset and course.—In 95·4 per cent. of the cases the onset was gradual, the most frequent symptoms being : General malaise, headache frontal or occipital, anorexia, pain in back and lower extemities, and chilliness. General malaise and frontal headache, with anorexia, were by far the most frequent. In two cases pain in the abdomen was severe, localised and of sudden onset, simulating appendicitis. Chills occurred at time of onset or during first week of the disease in 17·4 per cent. of the cases. Diarrhœa was present at the onset in 20·9 per cent., and persisted throughout the course in 8 per cent. Enemata were given in all cases of constipation. Epistaxis occurred at onset in 18·6 per cent. Vomiting was present at onset in 34 per cent. of the cases. In one case it was persistent during the course of the disease, resisting treatment for some days. Delirium was present at time of entry into hospital or during course of disease in 18·6 per cent. of the cases. In nearly every case it was of a low, muttering character.

Eruption.—An eruption was present in 72 per cent. of the cases. In one case it was petechial in character, while in the remaining cases it was of the nature of "rose spots." The earliest appearance of the rash was on the fourth day of the disease, and the latest on the fortieth day of the disease. In one case the rash appeared only during the relapse. The shortest duration of the rash was three days, and the longest twenty-seven days. The average duration of the rash was eleven days.

Spleen.—The spleen was palpable in 67·4 per cent. of the cases. In one case it was palpable on the first day of the disease, and in another case it was palpable till the fourth day of the relapse, on the twenty-fifth day of the disease. On the average the spleen remained palpable for twelve days. The spleen was palpable for only three days in one case, while in another it could be palpated for thirty-two days.

Relapse.—A definite relapse occurred in eleven cases, *i.e.*, 12·7 per cent. The longest duration of the relapse was twenty-nine days, the shortest duration eight days ; the average duration being eighteen days. In three cases the relapse was more severe than the original attack. In one case temperature had been normal for seventeen days when relapse set in, while in another temperature was normal for only twenty-four hours. One case was re-admitted to the hospital for typhoid fever after having recovered from an attack four weeks previously.

Fever.—The highest temperature recorded in any of the cases was 106 2/5°. In one case the maximum temperature was 100 2/5°. The average maximum temperature in all the cases was 103 2/5°. The temperature reached 104° or over in 48·8 per cent. of the cases.

The following complications were noted :—

Digestive system.—Double parotitis developed in one case on the seventeenth day of the disease. Cholecystitis developed in three cases. Suppurative cholecystitis, with gangrenous ulceration of the gall-bladder and cholelithiasis, was present in one case, and meteorism was marked in 25 per cent. of the cases. Perforation of the bowel occurred in two cases, in one on the tenth day and in the other on the thirteenth day of the disease. Intestinal hemorrhage occurred in nine cases. In three cases it was the cause of death ; in one case it preceded perforation ; in the remaining cases recovery ensued.

Circulatory system.—Systolic murmurs developed during course of disease in five cases. Femoral phlebitis occurred in two cases, and brachial phlebitis in one case.

Respiratory system.—Acute bronchitis was present at onset in 14·9 per cent. of the cases. Broncho-pneumonia developed in one case, and pulmonary œdema was present in one case. In two cases pleurisy with effusion developed. Tuberculosis was present in one case.

Other systems.—Periostitis developed during the attack in one case, and in the early stage of convalescence in a second case. Abscesses developed during convalescence in one case ; myositis of triceps and deltoid muscles developed on seventy-second day of the disease ; suppurative otitis media was present in three cases ; staphylococci were present in pus in one case ; and acute nephritis occurred in four cases. In all cases it developed during the active stage of the disease.

The Widal test has been employed in all the cases, and in only four cases was the reaction negative throughout the course of the disease. Of these, three cases were regarded as abortive typhoid. The temperature remained elevated in the most prolonged case for ten days. No rose spots were present. The reaction appeared in one case as early as the fourth day of the disease. In one case it was not positive till the eighteenth day. It was present on the average on the eighth day. The reaction has been tried in six cases at date of discharge from the hospital, and in every case has been positive. This is receiving further investigation.—*Montreal Medical Journal, June*, 1900.

3.—TYPHOID FEVER AND ITS TREATMENT ON THE GOLDFIELDS.

By ROBERT RAMSEY, M.B., Ch.M. Glas., Melbourne.

[From Dr. Ramsey's paper :]

As enteric fever spread so rapidly in Cue and neighbourhood the Government were compelled to move in the matter, and being asked to accept control of affairs I immediately had a site isolated, and a sufficient number of tents erected to accommodate 80 patients. We had only ordinary cross-legged stretchers, blue or red blankets, no sheets, no pillows, no mattresses ; the ground for a floor, nothing but pannikins and quart pots to drink out of ; bad water, and very often hard pressed to get nourishment for our patients. We were such a long distance from the coast that every now and again we would find ourselves unable to procure either milk (condensed of course), flour, candles, meat, cocoa, or indeed anything except whisky. The deaths were dreadful, as many as 20 a day at first ; but when the hospital came into play we worked wonders by bringing men out of lonely camps and isolated districts and caring for them. Our mortality for the next two years was necessarily high, for men were brought in on drays from camps two, three, four, and five hundred miles distant. Many of course died on the road, others arrived moribund ; but some still live to tell the tale. From the first I insisted upon the cremation of all stools, urine, refuse, &c., and issued a little sheet from the first printing press on the field, inculcating personal cleanliness. The men had a dirty habit of throwing all the camp refuse, tins of meat half used, half-tins of fish, bits of damper, &c., &c., until each tent had a mound of refuse in front of it which was utilised for domestic purposes *ad nauseam*. My little pamphlet held out very strong warnings against this course of action, and many of the men became much more cleanly, some even going so far as to turn over the earth in a fresh place with the spade at each motion. For about eighteen months we all lived much as a large congeries of men *will* live, where there are no women ; but at last nurses arrived, and at once affairs, so far as our sick were concerned, betokened a revolution.

As the township grew the inhabitants split themselves, so to speak, into sections, and we had an Afghan camp here, an Italian camp there, while Japanese, Beluchis, Punjabis, Malays, &c., took each charge of a site, and there established a miniature township of their own ; and still enteric fever spread. In the beginning of 1895 I had charge of *three* hospitals, all full of enteric cases. No. 1, the original tent hospital, with 96 cases ; the New hospital, stone built and beautifully furnished, with 50 cases; and four miles away the Day Dawn hospital with 47 cases. The treatment was of necessity simple, and I do not know that I can advocate any departure from the recognised routine. My hospital instructions were:—(1) Every patient to be thoroughly cleansed by a warm water bath and soap before being put to bed. (2) The recumbent posture insisted upon—absolutely. (3) Calomel in 5 gr. doses every four hours until 30 grs. had been taken—℞ Ac. carb. and ♏ iodi i to iii. Tk. (4) Phenacetin grs. v., c̄ caffein cit. gr. ii. every four hours if temperature exceeded 101° F., to be followed by cold water sponging as soon as skin re-acted until temperature fell to normal—thermometer in mouth. If skin did not re-act give antipyrine. (5) *Hemorrhage.*—Turpentine in sugared water after each bloody motion. I tried the ordinary Pil. Plumbi c opio. until a warning came in the shape of a motion passed during a hemorrhage, which consisted of a shrapnell shell bound by blood clot, and containing 18 Pil. Plumbi. c̄ opio. grs. v. (6) Back and shoulders rubbed daily with S.V.R. (7) *Diet.*—All food stuffs in liquid form until night temperature had been normal for three days. (8) Motions to be regulated, glycerine enemata every second day in cases of constipation—these preponderated markedly, and I used to be much annoyed by the way in which pints of soap and water used to be retained by some. Glycerine was always effective. (9) *Collapse.*—Hot foments to præcordium, hot bottles to feet and legs, brandy by mouth, and strychnine hypodermically. (10) No stimulants unless ordered specially.

We had never sufficient water to spare to try the cold bath treatment, and if we had had enough water, we could not have cooled it, but I found sponging the patient thoroughly with water cooled in a water bag, wonderfully efficacious in reducing temperature. Sheets wet, and held for a few minutes in a draught, were soon cold enough for any cold pack.

Results.—My first 1,000 cases give a mortality of 32 per cent., but this is not to be wondered at, considering the distances men had to journey, and the conditions of life which obtained at the time. But when our hospital was modernised; when we had ice in abundance, when we had the best of well-trained nurses, and the best of food stuffs, and men had learned that cleanliness, which is next to godliness, and the nursing staff was not overtaxed by the inrush of fresh cases: a welcome change appeared, as the W.A. Blue Book figures will show.

Cue Hospital:—

1896: Admitted 203 males, 9 females; died, 17 males, 1 female.

1897: Admitted 134 males, 10 females; died, 7 males.

1898: Admitted 185 males, 30 females; died, 15 males, 2 females.

In 1896 Perth Hospital had 362 cases, with 49 deaths.

In 1896 Cue Hospital had 212 cases, with 18 deaths.

In private practice, in which I include patients in private hospitals, &c., the results were simply wonderful (that is since 1896), and I am proud to say that after eliminating all possibly mistaken cases the mortality was 4⅓ per cent.—*Australasian Medical Gazette, August* 20, 1900.

4.—PROPHYLAXIS OF TYPHOID FEVER AND DYSENTERY IN ARMIES IN THE FIELD.

By Dr. VINCENT and Dr. ANTONY,

Professors at the Val-de-Grâce Military Hospital.

[The following is taken from the report of the Thirteenth International Medical Congress in Paris :]

Dr. Vincent said that the necessities of war made the prophylaxis of typhoid fever very difficult. *General Prophylaxis.*—At the commencement of mobilisation all men out of health should be eliminated or drafted to the auxiliary services. At the beginning of the campaign there should be given to each man, or at least to each officer, a leaflet of instructions setting forth the principal rules of the prophylaxis of infectious diseases, particularly of typhoid. During the period of concentration and during active operations care should be taken to prevent over-fatigue as far as is compatible with the exigencies of war. For colonial wars only men should be chosen of at least 25 years of age, and the expeditionary force should be followed by a large number of bearers, &c. The purity and variety of food, individual cleanliness, the hygiene of cantonments, bivouac, and camps, and that of latrines (which should be lighted at night), protection against the plague of flies, the ventilation of tents, huts, &c., the sanitation of fields of battle—all these things should be the object of constant and rigorous supervision. Suspicious wells should be placed out of bounds and guarded. Only filtered or boiled water, or, better still, light tea or coffee, should be used. Alcoholism should be prevented. *Special Prophylaxis.*—The value of anti-typhoid vaccination by Wright's method has not yet been established. Each Army Corps should be provided, as is the case in the German and American armies, with a bacteriological outfit for use in the field, so that the early cases of an epidemic, which often pass unnoticed, may be recognised. Troops coming from infected garrisons should, if possible, be made to camp or bivouac apart. Sick men should be enjoined to report themselves without delay. The most serious cases should be sent to special hospitals. The evacuation of other cases of typhoid and suspected cases far from the zone of operations is possible, and should be carried out in the early days of the disease. It seems to be necessary to establish special hospitals for typhoid cases. The dejecta and everything that may have been touched or soiled by the sick should be disinfected or sterilised. In cantonments, localities and dwellings infected with typhoid fever should be avoided. Quarters should be cleansed and ventilated, and, if need be, disinfected. Soil, water, and air should be protected against contamination by specific fæcal matter. Dejecta and filth should be burnt, or, if that is not possible, disinfected and buried. Cantonments should not be kept long in the same place. In temporary camps, besieged places, and besieging armies, the same rules for combating contamination of the soil, water, air, food, &c., should be observed. If typhoid fever spreads, the camp should be abandoned. A detail should be left there to carry out disinfection, and a new camp should only be established after a bivouac for at least fifteen days so as to give time for incubating cases of typhoid to declare themselves.

Dr. Antony said it was necessary that recruits and weakly men should be kept away from the fighting line until their military training was complete. To act otherwise with the object of putting into the field a larger effective force could only lead to disaster. As regards food, the rations should never be solely composed of preserved food when it could be helped. Intemperance and all forms of excess should be severely repressed. For the purification of water every available method should be used, but the most practical and certain was boiling. Soldiers willingly adopted these precautions if tea or coffee were served out to them for use with the water. As the sanitary service was not adequate to cope with the necessary work of disinfecting hospitals and the sanitation of battlefields, there should be organised in time of peace a special service for those purposes which should be in a condition to set to work from the very beginning of mobilisation. A service of this kind was tried with success by the Russians in 1877. In hot countries, where malaria and dysentery acquire a special character of frequency and intensity, besides the precautions just referred to, care should be taken, if possible, not to carry out military operations during the time of year when these diseases generally prevail, and the troops should be subjected to prophylactic treatment by quinine.—*British Medical Journal Epitome*, *September* 8, 1900.

5.—NOTE ON A PRE-EXANTHEMATOUS SIGN OF MEASLES.

By P. Watson Williams, M.D. Lond., &c.,

Physician to Clifton College; Physician in charge of the Department for Throat Diseases, Bristol Royal Infirmary, &c.

[The illustrations are omitted here.]

The pre-eruptive sign of measles described by Koplik, of New York, in 1896, as invariably present at some time in all cases of measles, and as absolutely pathognomonic of the affection, is worthy of closer attention than has been accorded to it in this country. The complete early isolation of patients developing measles is most desirable, inasmuch as the affection is highly contagious in the pre-eruptive stage, yet often the character of the symptoms that precede the appearance of the exanthem are so indefinite as to arouse no suspicion of commencing measles. If the claims of Koplik that these spots are characteristic of measles are well founded, we have at hand a ready means of making a diagnosis before the appearance of the measles rash. Moreover, there are various skin affections which closely simulate the rash of measles; and here again the sign now known as "Koplik's spots" may afford valuable data in making a differential diagnosis. The spots are very minute, round, discrete, bluish-white specks on a reddish punctate area or diffuse red background.

Koplik states that "if we look in the mouth at this period [the time of the prodromal symptoms] we see a redness of the fauces; perhaps, not in all cases, a few spots on the soft palate. On the buccal mucous membrane and the inside of the lips, we invariably see a distinct eruption. It consists of small, irregular spots, of a bright red colour. In the centre of each spot there is noted, in strong daylight, a minute bluish white speck. These red spots, with accompanying specks of a bluish white colour, are absolutely pathognomonic of beginning measles, and when seen can be relied upon as the forerunner of the skin eruption." Once seen, they can hardly be mistaken. They vary in number from two or three to countless numbers, and are most usually seen on the portions of the buccal and labial mucosa in contact with the teeth. In looking for them the lips should be well everted, and the cheeks drawn away from the teeth first on one side and then on the other, by the tip of the finger or by the handle of a spoon. Strong daylight is better than artificial light. In many cases no distinct red spots are to be seen, but the white specks look like particles of salt lying on the surface of the reddened mucous membrane. These white spots are adherent, but may be rubbed off, leaving a smooth pink surface. When occurring in crowds, although the spots do not actually coalesce, they may give at first sight the appearance of a thin white glazing or false membrane. The buccal mucous membrane, not that of the palate, is the place where their presence should be sought. These spots appear from twelve hours to three days before the skin exanthem, but cases have been known on which the spots were present as much as five days before the rash. They generally begin to fade as the skin eruption becomes well developed.

I have found this sign of great value in arriving at an early diagnosis of measles, but I am unable to say from personal experience whether these spots are absolutely pathognomonic of measles. Koplik says that cases with the usual morbilliform eruption without these spots are really cases of rötheln. Ross, who has made a special study of these spots in Koplik's clinic, states that in some of the children suffering from rötheln "there was everything resembling measles in the examination of the skin. The children were covered with an eruption which many physicians would have called undoubted cases of measles. The Koplik's spots were absent in these cases, and the throat nearly normal. In almost all cases the temperature was 100° to 101°. Not only is rötheln a distinct disease from measles, but the Koplik's spots are the only, and most valuable, means of differentiating these from true measles. This may account for many of the cases of measles without Koplik's spots. He (Koplik) maintains that such cases are really pronounced cases of rötheln." I may add that I have diagnosed such cases of measles without Koplik's spots, but I am not prepared to admit that they were cases of rötheln. Nevertheless I am convinced that when Koplik's spots are present they invariably indicate the existence of morbilli.

Sobel, who has observed the characteristic spots in numerous cases of measles, has particularly examined the buccal mucous membrane of children affected with various skin eruptions—varicella, urticaria, scarlatina, vaccinia, purpura simplex and hæmorrhagica, congenital syphilis, erythema multiforme, scabies, miliaria, eczema, rötheln, impetigo simplex and contagiosa, drug eruptions (bromides, antipyrin)—and in no case were Koplik's spots observed.—*Bristol Medico-Chirurgical Journal*, *June*, 1900.

6.—THE BACTERIOLOGY OF SCARLET FEVER.

By M. A. GORDON, M.D.

Dr. Gordon (*Suppl. to 28th Ann. Report of L.G.B.*, 1898-99) gives a continuation of the study reported on by Dr. Klein in last year's supplement, and has special reference to the presence of the Streptococcus scarlatinæ (Klein) or conglomeratus (Kurth). In last year's report Dr. Klein showed that this organism was to be found regularly in the throats of scarlatina patients, that it was sometimes found in the nasal discharge, but never in the aural discharge. This organism was distinguished by its coherent growth in broth, its rapid coagulation of milk, and its characteristic nodular colonies on agar. It was also shown to be pathogenic for mice and rabbits, producing lesions which could be proved to be due to the streptococcus.

In continuing his study, Dr. Gordon found it necessary to review the whole streptococcus group. The streptococci have been classified by Lingelsheim according to their growth in broth. Streptococcus *brevis* forms short chains in broth, renders the broth turbid, and is not pathogenic for mice and rabbits, while S. *longus* forms long chains in broth, does not render the broth turbid, and is always pathogenic to rabbits, and sometimes also to mice. Dr. Gordon found on examining streptococci from a variety of sources that this classification, though useful, was insufficient, and he added to it a third, intermediate division, viz., Streptococcus *medius*. In the class S. brevis he includes Lingelsheim's brevis, also the Diplococcus pneumoniæ. In the class S. medius come the majority of the streptococci, particularly those of pus, sepsis and erysipelas, which fell into Lingelsheim's class longus. The term *longus* is restricted to an organism obtained from the normal throat which is strikingly characterised by the length and profusion of its chains. The Streptococcus scarlatinæ appears to occupy a position intermediate between the groups medius and longus. Dr. Gordon gives in detail the cultural characteristics of S. medius, S. longus and S. scarlatinæ. S. brevis is distinguished by the uniform turbidity which it produces in broth and gelatine kept at 37° C. for twenty-four hours. S. medius, longus and scarlatinæ leave the broth clear, but while medius and longus form a loose friable growth at the bottom, S. scarlatinæ forms a firm, conglomerate, "bun-like" mass. In litmus-milk medius and longus form a slight amount of acid with no clotting, whereas S. scarlatinæ is a strong producer of acid, and a firm clot results. Agar colonies of medius are round, firm-edged and grey; those of longus are flat and feathery edged, with looped chains closely resembling those of anthrax. Agar colonies of S. scarlatinæ are coherent, granular or glossy, with characteristic tubercles. The above points are well brought out in the excellent photomicrographs which accompany the report.

Dr. Gordon next proceeded to a systematic examination of the organisms present in the aural and nasal discharges, and in the throats of scarlatina patients. Twelve cases of aural discharge were examined. Six of these showed the presence of streptococci. In no case was a streptococcus found which could be identified with S. scarlatinæ. Twelve cases of nasal discharge were examined. Eight showed the presence of streptococci ; two of these gave S. scarlat. and in one of them it was the only streptococcus present. Twenty-seven examinations of the tonsils of persons in all stages, but especially the later stages, of the disease were made, and the Strept. scarlatinæ was detected twenty times. Of the seven cases in which it was not obtained, two were in the third and fourth weeks, and five after the beginning of the fifth week of the disease. On the other hand, it was present in thirteen out of eighteen cases examined after the fifth week, in two cases as late as the ninth week. Hypodermic injection of mice with S. scarlatinæ produced death in eight out of ten cases in periods varying from four to thirty-seven days.

Post mortem.—The organs (lungs, liver, kidneys, &c.) were found to be congested, with lesions in which the streptococcus could be demonstrated *in situ*, and from which it could be recovered in cultures.

Thus the organism was found in *none* of the cases of aural discharge, in 16 per cent. of cases of nasal discharge, and in 74 per cent. of the throats examined.—*Dr. C. M. Hector's abstract in the Quarterly Medical Journal*, *August*, 1900.

7.—A "FOURTH DISEASE."

By Clement Dukes, M.D., F.R.C.P. Lond.,

Physician to Rugby School ; Senior Physician to Rugby Hospital.

[The following is taken from Dr. Dukes' valuable paper :]

A suspicion of the confusion of two different diseases under the name of "rubella" has been entertained by some of those who have had an extensive experience in the eruptive fevers of the young ; but while myself suspecting the fact for several years I failed to attain conviction until the advent of an epidemic in April, 1900. These two diseases are not classified in the third edition (being the second revision), 1896, of the "Nomenclature of Diseases" by a joint committee of the Royal College of Physicians of London, but are included under the single terms of "rubella," "rötheln," "German measles," or "epidemic rose-rash." The purport of the present communication is the establishment of the proposition, on definite and analysed grounds, that two clearly distinguishable diseases exist. It will be admitted that there is a distinct disease called "measles" (morbilli). It will further be accepted that there exists another definite disease termed "scarlet fever" (scarlatina). Another disease usually, though most unfortunately, described as "German measles" (rubella) is also recognised. I hope to prove to the satisfaction of the profession that this disease does not consist of two varieties of one kind, as I have hitherto contended with the profession in general, but that two definite and separate diseases have been confounded under one name. For the law observed in zymotic diseases prevails here, *that an attack of one of these diseases does not protect from an attack of the other.*

[The following are given by Dr. Dukes as the characteristics of the "fourth disease":]

(1) *Premonitory symptoms.*—In many cases none, even with a copious eruption; neither headache, nor vomiting, nor catarrh, nor cough, but frequently slight sore throat. If the attack, however, be severe, there may be pronounced malaise for some hours, with headache, anorexia, drowsiness, chilliness, and even considerable backache.

(2) Its *season* is spring and summer.

(3) The *incubation period* has a probable range of from nine to twenty-one days.

(4) The *eruption* is usually the first noticeable symptom, and will cover the whole body with a considerable diffuse rash in a very few hours. The hue is a bright rosy red, and the eruption is raised somewhat from the surface of the skin. The sensation of heat of the skin to the touch, even where the rash is very full, is much slighter than in scarlet fever.

(5) *The throat.*—The fauces are usually swollen and reddish, assuming a velvet appearance, but this condition bears little relation to the extent of the rash.

(6) *The eyes.*—The conjunctivæ are pink and suffused.

(7) *The glands.*—The lymphatic glands universally are enlarged, hard, and tender, and feel like peas, though less manifest than in rose-rash. Those mainly affected are the posterior cervical, the axillary, and the inguinal.

(8) *Desquamation.*—The desquamation may be slight, or as complete as possible, even extending to a general peeling of the hands and feet. But the desquamation bears no relation to

the intensity of the eruption, for it often happens that a very full eruption may be followed by little or no desquamation, and what does occur disappears in a week or two. On the other hand, a full eruption may be attended by a general peeling as free as in the worst cases of scarlet fever, but mostly in small scales rather than in flakes or sheets. A slight rash is usually accompanied by little or no desquamation. But I have never seen a case of scarlet fever with a full eruption where the desquamation did not occur eventually in sheets, the process lasting many weeks. If a series of cases be observed, these abnormalities will be very apparent.

(9) *The kidneys.*—Rarely affected. Where they are involved the condition is probably that only of the albuminuria of adolescents.

(10) *Sensations of illness.*—Where the eruption is slight there is no illness of any kind, and where the eruption is copious the feeling of illness is sometimes scarcely apparent, although I have seen boys really ill from this disease.

(11) *The tongue.*—The tongue is clean or slightly furred, and never coated with a thick white fur, which peels on the fourth day, leaving the tongue raw.

(12) *The pulse.*—In slight cases it is normal, and where the case is a well-marked one the pulse is quickened, but bears a ratio to the temperature; that is to say, where the pulse is accelerated the temperature is raised in a proportionate degree.

(13) *The temperature.*—This varies from 98·4° to 103° or 104° F.; but even with a very extensive rash the temperature is not necessarily high.

(14) *The course of illness.*—The symptoms, however severe, pass off in a few days, leaving comparatively little feeling of illness.

(15) *The period of infection.*—It is not so very infectious in its earliest stage. In its later stage, even while desquamation is taking place, it is not infectious beyond two or three weeks after thorough disinfection.

(16) *Protection.*—The attack affords no protection against scarlet fever or rose-rash.

(17) *The duration of infectiveness.*—From 10 to 14, or even 21 days where efficient disinfection is in force.

(18) *Sequelæ.*—Practically none, but I have seen the submaxillary glands enlarged.

(19) *Termination.*—Usually complete recovery in a fortnight.

(20) *Treatment.*—The patient may be permitted to get up on the fifth or sixth day, or as soon as his strength permits, irrespectively of the desquamation and without danger from sequelæ. He then requires three or four days indoors, followed by five or six in the fresh air, and may safely join his school-

fellows at the end of from 14 to 21 days, notwithstanding desquamation, provided the disinfection has been thorough.

I have shown :—(*a*) That although its resemblance is so close to scarlet fever in many features, it cannot possess any affinity with that disease, inasmuch as both diseases occurred concurrently in the same epidemic. (*b*) That some of the sufferers had both diseases in the same epidemic. (*c*) That one patient had scarlet fever followed by the "fourth disease." (*d*) That several had the "fourth disease" followed by scarlet fever. (*e*) That although the "fourth disease" has been confused with rose-rash and regarded as a mere variety of rubella, this conclusion is fallacious, since nearly one-half the cases in an epidemic had already had rose-rash within a year or two, which, according to Cullen's established law, is incredible.

I have purposely refrained from attaching a name to the disease in order to avoid the anomalous description of the same disease under an indefinite number of terms, as in the case of its ally, which has been variously designated as "rubeola notha," "rötheln," "rubella," "German measles," "epidemic roseola," and "rose-rash."—*The Lancet, July* 14, 1900.

8.—THE BACTERIOLOGY OF PLAGUE.

By R. Tanner Hewlett, M.D., M.R.C.P., D.P.H.,

Bacteriologist to the Jenner Institute of Preventive Medicine, &c.

[From Dr. Hewlett's paper :]

The *Bacillus pestis* is a small bacillus, which in the animal body occurs as a short, almost ovoid rod, frequently linked in pairs, measuring about 1·5-2·0μ in length by 0·7μ in breadth, but longer forms are met with here and there. It is non-motile, although Gordon has described the presence of one or two terminal spiral flagella, sometimes appears to be encapsuled, and stains readily with the ordinary aniline dyes, but not by Gram's method. There is a marked tendency for the organism in smear preparations from the glands, &c., to show polar staining, *i.e.*, the extremities or poles are deeply, while the central portion is but faintly, stained. The bacillus occurs in considerable numbers in the spleen and liver, and in the buboes ; in the latter it is frequently accompanied by other organisms, especially streptococci and staphylococci ; in large numbers in the sputum of pneumonic cases, in small numbers in the blood. On blood-serum at 37° C. there is a considerable growth in from twenty-four to forty-eight hours, which is moist, shining, cream-coloured, and slightly raised, without any liquefaction of the medium. On agar, or glycerine agar, in the same time, there is a copious thick, moist, shining, smooth, cream-coloured growth, the margins of which are frequently crenated. This growth is markedly sticky, a point of some importance for diagnostic purposes. On *dry* agar—agar which has been kept in the warm incubator for a fortnight or so in order to evaporate the water of condensation—the growth, when viewed from behind, has a dull greyish, metallic appearance, like the back of a silvered mirror or fine-ground glass. On gelatine at 22° C. the organism forms a delicate, opaque, snow-white growth, with irregular margins and with little tendency to spread ; it is markedly adherent and produces no liquefaction. In broth the growth is somewhat characteristic : for two or three days the medium remains quite clear, while a flocculent and sticky deposit forms at the bottom of the tube. In broth containing a little "ghee," or butter fat, kept absolutely still, a characteristic growth occurs ; small islands form at the surface, from which fluffy dependent down-growths hang into the fluid, the so-called stalactite growth of Haffkine, which, so far as is known, does not occur with any other organism. There is no growth on potato, milk is not curdled, there is no production of gas, a small amount of acid is formed in glucose-agar, and indol can be detected in broth cultures a week old.

The morphology of the organism in cultures differs somewhat from that met with in the animal body ; it still remains for the most part a short rod, but longer forms occur, and even short filaments. In broth cultures the organism forms chains of very short elements resembling streptococci. Cover-glass preparations of cultures do not show such distinct poral staining as do smears from organs. On dry media, and occasionally even in the body, ovoid, pear-shaped, and spindle-shaped involution forms are common, and these are stated to be especially frequent upon media containing 2 to 3 per cent of salt (Hankin). In addition to man, the following animals are liable to contract plague under natural conditions :—Monkey, rat, mouse, bandicoot, squirrel, and marmot, also guinea-pig and rabbit ; and of these rats, mice, bandicoots, and marmots have in some instances probably been agents in spreading infection. The dog, cat, horse, cattle, sheep, goat, and birds are immune. The plague bacillus is readily destroyed by heat and by disinfectants—a temperature of 65° C. acting for half an hour destroys the vitality of cultures. For practical disinfection of native houses, a solution of sulphuric acid, 1—250, is by far the cheapest and most efficient agent to employ. An *acid* solution of corrosive sublimate, 1—1,400, may also be employed.

Bacteriological diagnosis of Plague.—(1) Make smear preparations with the blood and with fluid from the buboes. Stain some of the preparations with methylene blue or with weak aniline gentian violet (1 : 3)—in the latter instance, after staining, clearing by rinsing for two or three seconds in weak alcohol (1 : 1). Other preparations are stained by Gram's method. The cover-glasses, after staining for three minutes, are washed, dried, and mounted in Canada balsam and examined with a $\frac{1}{12}$ in. oil immersion lens. The presence of numbers of short diplo-bacilli with polar staining, which are decolorised by Gram's method, is highly significant. The bacilli may be scanty or numerous in the buboes, and may be accompanied by cocci and streptococci (these will *stain* by Gram's method). They are not likely to be numerous in the blood except in severe, moribund, or septicæmic cases. The non-finding of the bacilli in a microscopical preparation counts for nothing. A microscopical examination cannot be absolutely relied upon to establish the diagnosis in a primary case; cultivation and inoculation must also be carried out if possible; but in the secondary cases during an epidemic it suffices. If there be any expectoration, it may be similarly examined; in pneumonic cases the diplo-bacilli will be very numerous (the *diplococcus pneumoniæ* is smaller than the plague bacillus, and *stains* by Gram). (2) If the characteristic bacilli be found, a fresh hanging drop preparation should be made and examined for motility (the plague bacillus is non-motile). (3) Cultivations should be made on surface agar and gelatine with a platinum loop-full of the material, the same loop being streaked over two or three tubes. Two or three broth cultures may also be made. In 24—48 hours the cultures will have developed, and the naked-eye and microscopical characters may be noted. (4) Two or three small guinea-pigs (200 grams or so) should be inoculated subcutaneously in the abdomen with a little of the fluid (0·25 to 1 c.c.) from a bubo or with an emulsion of the material. Death will ensue within seven days, probably in two or three, with characteristic post-mortem and microscopical appearances, which can be confirmed by cultivation. Fluid from a bubo may be obtained by means of an antitoxin syringe after carefully cleansing the skin.—*From Special "Plague" number of the Practitioner, October*, 1900.

9.—THE ETIOLOGY OF RHEUMATIC FEVER.

By FREDERICK J. POYNTON, M.D., M.R.C.P. Lond.,
Assistant Physician to the Hospital for Sick Children, Great Ormond Street, &c. ; and

ALEXANDER PAINE, M.D. Lond.,
Assistant Bacteriologist to St. Mary's Hospital.

[The following is taken from Drs. Poynton and Paine's important paper :]

Concerning the isolation of the diplococci:—(1) We have demonstrated these diplococci in eight successive cases of acute rheumatism. (2) They have been present in five cases in pure culture. (3) We have obtained them (*a*) from the blood of living patients suffering from acute rheumatic pericarditis ; (*b*) from the pericardial fluid and from the fragments of granulations removed from the valves after death ; and (*c*) from the throat of the living patient suffering from rheumatic tonsillitis. (4) We have isolated them and grown them in an acid medium and also upon blood agar. (5) They have also grown in the pericardial fluid which we proved on those occasions to be acid. (6) They do not thrive on ordinary media. (7) We have isolated them in pure culture from the joint exudation, heart blood, urine from the bladder, and cerebro-spinal fluid of rabbits that have been inoculated with a sufficient dosage.

Concerning the demonstration of the diplococci in the tissues.—(1) We have demonstrated them in the cardiac valves, pericardium, and tonsils, and in a nodule in fatal cases of rheumatism. (2) We have demonstrated them in the cardiac valves, pericardium, joint exudation, kidneys, liver, connective tissues, pleuræ, cerebro-spinal fluid, lungs, and urine of rabbits inoculated intravenously.

Concerning the results produced by inoculation of these organisms intravenously into rabbits.—(1) They produce a polyarthritis, bursitis, and tenosynovitis. (2) This polyarthritis may completely disappear. (3) In some of the joints that have been affected for a considerable time the fluid is opaque and contains fibrin, endothelial cells, mononuclear and polynuclear leucocytes. In other joints the exudation is clear. (4) In one case they produced a paresis of the lower extremities which passed off in about three weeks. (5) They produce multiple valvulitis and pericarditis, both non-suppurative. (6) They produce in the liver and kidneys a condition of coagulation necrosis. This in the case of the kidneys chiefly occurs in the convoluted tubules. (7) They produce plastic pleurisy and pneumonia. (8) The urine is acid and loaded with urates. (9) They have not produced suppurative foci in the viscera. (10) They produce in the myocardium a condition of fatty degeneration and destruction of the muscle fibres analogous to that found in the human heart as a result of severe rheumatic carditis. (11) The clinical symptoms are characterised by multiple painful joint swellings, wasting, with (in the less severe cases) a maintenance of the appetite. There is moderate pyrexia. (12) The heart is affected early; tachycardia, dyspnœa, and irregularity of cardiac action, together with valvular murmurs, pericardial and pleural friction, have all been observed. (13) The clinical symptoms are, on the whole, remarkably constant when the organism is passed from animal to animal, though the tendency is for increase in the severity of the cardiac lesions and diminution in the arthritis.

I.—THE MORPHOLOGY AND OTHER CHARACTERISTICS OF THE DIPLOCOCCUS.

We are not as yet in a position to state fully the morphological characteristics of this micro-organism. Our research has been concerned more especially with the elucidation of the symptoms and morbid changes that are the result of their access to the living body. We have, however, ascertained the following details:

(1) They are minute cocci associated in pairs, the individual elements of which vary somewhat in size, but average 0·5 μ in diameter, as measured by Zeiss's micrometer eyepiece.

(2) In liquid media they grow in chains of varying length. In solid media they grow in masses that resemble the arrangement of staphylococci.

(3) They grow both aerobically and anaerobically. They may be cultivated upon ordinary media, but do not thrive, and rapidly lose both their virulence and characteristic appearances. When isolating them from the tissues, we have succeeded best with a medium of milk and bouillon slightly acidified with lactic acid, and, on the whole, the anaerobic tubes have proved more suitable to them than the aerobic. When they have been isolated they grow well upon blood agar aerobically at a temperature of 37° C., at which temperature the milk tubes were also incubated. Upon blood agar they form in 24 hours small, raised, yellowish-white, discrete colonies, the average size of which is 0·456 millimetre. The colonies are more or less circular, and have, under a high magnification, a slightly granular appearance. By transmitted light they show a darker centre.

(4) They stain with the various aniline dyes, though by Gram's method they are easily decolourised. The stain which we have used for them in the tissues and which has given the best result has been carbol-thionin. The metachromatism that is produced with this stain has assisted us in differentiating them from the tissues in which they were lying, for, when deeply stained, they appear a deep blue, whereas the tissues are usually a light blue or have a red tinge.

II.—The Relation of these Diplococci to those isolated by other Observers.

There can, we think, be but little doubt that these diplococci are identical with those discovered by Triboulet in 1897 and by Wassermann in 1899. Triboulet isolated them from the blood in acute rheumatism and grew them anaerobically. He also produced in one instance a valvular lesion in a rabbit, but did not produce polyarthritis. In spite of this absence of joint lesions, he thought these diplococci were the cause of rheumatism. Wassermann originally isolated them after death from a case of rheumatism, and produced polyarthritis and tenosynovitis in a series of rabbits. He grew them best on a strongly alkaline medium aerobically, but did not apparently obtain any valvular lesions. In addition to the isolated lesion obtained by these observers, the entire picture of rheumatic fever resulted in our cases. We have succeeded with acid, but failed with strongly alkaline media.

III.—Is this Organism the Cause of Rheumatic Fever

In the face of the statements by Achalme, Thiroloix, Bettencourt, Litten, and others, we cannot claim that this diplococcus is the only cause of rheumatic fever. More extended observations will doubtless settle this most important point. That it is one cause we believe to be proved to all practical purposes by this investigation, and we believe it highly probable that it will prove to be the cause of all cases of rheumatic fever which conform to the usual type of the disease, for the disease in man, as we have insisted before, is a very definite one, and therefore probably caused by a specific micro-organism.

IV.—The Clinical Likeness between Rheumatic Fever and the Disease produced by the Diplococcus in Rabbits.

The resemblance between the disease produced in rabbits and the rheumatic fever of man is, we think, a very striking one. There is moderate pyrexia and wasting, and the occurrence of a painful polyarthritis, which is metastatic and may entirely disappear. The tissues around the joints, such as the tendons and bursæ, are also affected, and the large joints are especially liable to this arthritis. The heart is affected early, even before the joints or irrespectively of the joint-affection. In the severe cases there occur pericarditis, valvulitis, pleurisy, and pneumonia, and the myocardium suffers as it does in acute rheumatism. The urine is acid and loaded with urates. There is no suppuration in the viscera, and the peritoneum escapes, as it does, as a rule, in rheumatism. In one case, following the arthritis, there occurred a passing weakness of the hind limbs. We do not venture to explain this, but think it suggestive of paralytic chorea.

The course of the disease is, as in rheumatic fever, prolonged, and inclined to recovery unless the dose is a large one. Finally, there is a tendency to exacerbations of symptoms similar to those so frequently observed in the rheumatism of childhood. In this it is well known that even when progress seems to be satisfactory there may be, without assignable cause, a sudden exacerbation of symptoms, which may almost as quickly disappear; in the rabbit also these variations may be noticed. —*The Lancet*, *September* 29, 1900.

10.—INFLUENZA IN CHILDREN.

By HERMAN B. SHEFFIELD, M.D.,
Physician to the Metropolitan Dispensary and Hospital, &c.

[Dr. Sheffield thus describes the symptoms and diagnosis :]

With such a diverse and complex pathological anatomy the attempt to classify this disease into three distinct types—to wit, catarrhal, digestive, and nervous—is based upon an erroneous conception of clinical facts. There is no line of demarcation as to the extent of the poison travelling through the system. The sub-division of the disease by some authorities into mild and severe, uncomplicated and complicated forms, is, to say the least, a superfluous task, as it leads to a repetition of the symptomatology under each heading. I believe, therefore, that the enumeration of the usual symptoms and complications *seriatim* is much more simple, and avoids a great deal of confusion.

Respiratory symptoms.—Preceded by a brief prodromic period, consisting of indistinct symptoms of coryza, indigestion, and general malaise, the active stage of influenza is ushered in with vomiting, chilliness, and rise of temperature. The sneezing and cough become more harassing, and the breathing is greatly accelerated and apparently very painful. The cough is dry, loud, and harsh, remaining so until the decline of the attack. The whole throat is deep red in colour, and the tonsils and pillars are swollen and covered with mucus, and at times with yellowish little dots. This muco-purulent secretion, like the expectoration, invests large colonies of influenza bacilli. Physical examination reveals the usual signs of laryngo-bronchitis. At times fine crepitation may be heard along the apices, which, with the previously mentioned symptoms, is apt to lead to the erroneous diagnosis of pneumonia. Indeed, those who study these cases carefully will agree with the writer that the differentiation between the respiratory disturbances of *la grippe* and actual pneumonia is next to impossible at the outset of the attack. In young infants marked dyspnœa and cyanosis are not uncommon.

Digestive symptoms.—The digestive organs are almost invariably implicated, anorexia and vomiting marking, as a rule, the beginning of the active stage. Vomiting may prove a very troublesome symptom, leading, as it does, to rapid exhaustion. There is a difference of opinion as to whether diarrhœa or constipation predominates in influenza. In ordinary cases neither of them is alarming, and we are inclined to attribute the former to the administration of laxatives and the latter to that of opiates.

Nervous symptoms.—The Eustachian canal and frontal sinus serve as portals of entry to grippal infection of the nervous system. The points of entrance of these canals are, as a rule, more or less involved in almost every case, giving rise to the terrific headache and earache respectively. With the spreading of the inflammation towards the brain a chain of complications arise, varying in severity with the intensity and extent of the infection from slight irritability, which is associated with every febrile affection, to expressed symptoms of meningitis. A case of primary meningitis of this nature came under my care four years ago.

Among the characteristic nervous phenomena of influenza we may mention, in the order of their frequency, hyperæsthesia, somnolence, insomnia, and vertigo. The pain is apparently very severe. The child cries when it is being lifted or moved about in the bed, but if left alone it can stretch its limbs apparently without difficulty. The pain in the neck, trunk, and extremities often keeps the little patients in a position closely resembling opisthotonos, thus tempting the observer to diagnosticate meningitis, especially if somnolence appears early.

The latter symptom varies from mere drowsiness and apathy to pronounced semicoma. One child, ten months old, dozed away for six successive days, awakening with a fit of crying if disturbed. She took nourishment only when coaxed to do so. On the other hand, cases are on record of suffering from insomnia for days, resisting even hypnotics. Dr. Earle relates a case of influenza in a child, four years of age, who was awake four nights. A few cases of this kind came under our observation.

Vertigo in infants mostly escapes our notice; in those able to hold up their heads, it manifests itself by dropping and swaying of the same in various directions. The eyelids droop, the face turns pale, and vomiting supervenes. Older children invariably complain of this miserable feeling, and are often unable to raise their heads from the pillow.

General symptoms.—Influenza begins with an abrupt rise in temperature of three to five degrees, which remains constant for a few days and declines by lysis or crisis, and is usually accompanied by sweating. In very young infants the temperature, being naturally subnormal, does not serve as a reliable guide, but, on the contrary, is misleading. Thus, in eight infants under two weeks of age, presenting unmistakable symptoms of influenza, Dr. Strassman found the temperature to average 95° F. Prostration is invariably present even when most of the other symptoms are masked. The little patient lies exhausted, almost in a state of collapse, seemingly without a spark of life in its body or mind.

Diagnosis.—The diagnosis of influenza is easy during an epidemic, but quite the reverse in its absence, "colds" and gastro-intestinal disorders being of such ordinary occurrence among children that influenza is not generally thought of when such symptoms present themselves; furthermore, the diagnosis is often obscured by the complication. So far as my experience goes, I have never failed to discriminate influenza from similar acute affections when I have taken pains and time to do so, relying chiefly upon the following symptoms: (1) The invariable presence of influenza bacilli of Pfeiffer in the expectoration; (2) the simultaneous development of respiratory, digestive, and, at times, nervous phenomena; (3) early and pronounced prostration, incommensurate with the severity and duration of the attack. In addition to these differential points, we must bear in mind the characteristic signs of all the other diseases resembling influenza, such as pneumonia, meningitis, gastro-enteritis, typhoid fever, scarlatina, measles, continued hyperpyrexia, and rheumatism, and of those associated with influenza not mentioned here.—*New York Medical Journal, June* 30, 1900.

11.—RELAPSING FEVER.

By GEORGE WATERS, L.R.C.P. Edin., L.R.C.S. Edin.,
Lieutenant-Colonel, Indian Medical Service, &c.

[The following is taken from Surgeon Lt.-Col. Waters' paper :]

In the first week of July the state of health in H.M. Common Prison, Bombay, suddenly changed from a condition resembling a European sanitorium to one of increasing mortality. The plague was at that moment in Bombay at its minimum for the year, and I did not suspect it as being at work among the prisoners. Still cases occurred, running on to a fatal termination in a few days, the only important symptom being fever ; and as small glandular swellings in the groin was a feature common to a large proportion of them, I was, much against my will, driven to declare them plague. I was, however, still in a state of perplexity on the point, as I had never seen plague occur under the circumstances in which the prisoners were placed. Dr. Marsh, who had been for some time employed here on bacteriological research, found the spirillum of relapsing fever in most of the cases, and the relapse came in due time to confirm the diagnosis in almost all the others.

With few exceptions of death from ordinary causes, all the cases ending fatally in the last six months have been caused by relapsing fever. In connection with this visitation of relapsing fever, the circumstance is singular and fraught with suggestion that the female prisoners, numbering from 20 to 30, have not amongst them a single case of relapsing fever, and no mortality whatever. This altogether precludes the possibility of the infection of the jail from outside sources. I mistook the cases of relapsing fever for plague at first, owing to their having swelling of the glands in the groin. This is a feature of relapsing fever that has hitherto not received due attention. The other symptoms, too, of relapsing fever in a first attack closely resemble plague, there being delirium, high fever, jaundice, epistaxis, and not infrequently pneumonia in both diseases. There are, of course, several differentiating factors besides the respective organisms, but that to which I wish specially to draw attention is the glandular enlargement in the groin. In plague there are only a few glands swollen, if more than one ; in relapsing fever the enlarged glands present a beadlike chain along the groin, embracing its entire length, and the enlargement is uniform and slight in extent, whereas in plague the enlargement is considerable, approaching, and in many cases exceeding, the size of an almond.

Early in October the superintendent eagerly desired to whitewash the "hard labour" yard, including the floor of the space involved. I consented reluctantly, as I did not anticipate benefit from so much damping of the surface; but I had no idea that the mere act of whitewashing would prove so disastrous as it seemed to do. In this respect, too, the visitation of relapsing fever behaved exactly like plague, only the relapsing fever persisted much longer than plague after the dampness caused by the limewash had been removed by the sun. The relapsing fever attacks being confined in the main to comparatively recent arrivals in the jail, I associated the "under trial" side of the prison with the cause of the disease; and, finding that the whitewashing of the "hard labour" yard had only a disastrous effect, I resolved to see how far the "under trial" side of the jail might be answerable for the outbreak, and so on the 9th of December I had all the "under trial" prisoners removed to the "hard labour" yard. Since then there had been a marked subsidence of the disease. Altogether, only seven cases of relapsing fever have occurred among those admitted in the interval between that date and the end of the month and year. Of these, five were obviously imported cases, as they were sick on admission to jail, and were almost at once admitted to hospital. In the case of the remaining two, the interval between admission and attack was ten and eleven days respectively, and such intervals are well within the outside limits of the period of incubation of relapsing fever, this period having been known to reach sixteen days. Practically, then, we have not had an indigenous case (so to speak) in the jail since the 9th inst., and, so far as the "hard labour" yard is concerned, the outbreak of relapsing fever has been arrested. As to when the "under trial" yard can with safety be re-occupied, that is a difficult question to answer. Meanwhile, I should say, there is no unusual overcrowding, as the "under trial" prisoners are accommodated at night in the "hard labour" sheds, which are ample, and not unsuitable for the purpose. I am inclined to think that the prolonged disuse of the "under trial" yard, and the free force of the sun's rays, will be the means best suited for the eradication of the poison of relapsing fever from the common jail, and to this we should trust. The ensuing monsoon will, I think, completely remove the mischief. We have seen an intense aggravation of the epidemic by the use of limewash; and a potent disinfectant like quicklime and water failing, I shrink from recommending the use of any other disinfectant applied with moisture.

As regards the arrest of the disease, I felt that, under any circumstances, the removal of the prisoners *en masse* would be attended with an increase of mortality, altogether apart from the many other difficulties with which the situation would thus be surrounded; and as I did not despair of getting at the bottom of the trouble, I held on to my endeavour to stop the disease without putting Government to the expense, loss of life, and inconvenience which the closure of the Oomarcarry Jail would imply, and I think I have now got at least on the track which leads to success, and I therefore adhere to my recommendation that things should remain as they are—that is, as I have placed them.

P.S.—I find I have not completely explained the exemption of the female prisoners from relapsing fever. They are housed, day and night, in the upper storeys of two separate blocks, and seldom walk in the jail yards, and so are not exposed to the poison, which would appear to keep close to the ground. That they have not imported the disease from outside is clear from their continued exemption from attack.—*Glasgow Medical Journal*, *September*, 1900.

12.—THE TREATMENT OF MALARIA BY QUININE.

By Andrew Duncan, M.D., B.S.Lond., M.R.C.P., F.R.C.S.,
Lieutenant-Colonel I.M.S. (ret.).

Physician to the Seamen's Hospital, Royal Albert Docks, London.

[From Lieutenant-Colonel Duncan's paper:]

In regard to the prophylactic action of quinine, I may perhaps be permitted to recapitulate some of the evidence already in our possession. Amongst French physicians M. Corré holds that the daily exhibition of quinine or tea given at the beginning of the malarious season, or whenever troops are operating in malarious countries, will diminish the chance of infection, but will not be of any avail against the more pernicious form. M. Marvaud states that quinine gave good results during the Niger expedition, except as regards the gravest forms of the disease. MM. Kelsch and Kiener state that the officers of the French marines favour the exhibition of quinine, but again except the graver forms. M. Thorel had success in Mekong. M. Bizardel has found it successful in warding off attacks of pernicious ague. The Austrian and Russian surgeons, however, found no advantage in its use. M. Pola experimented on 736 soldiers, 500 of whom took quinine with attacks of malaria of 18 per cent.; the remainder not taking it were attacked in the proportion of 28 per cent. The American physician, Dr. Bryan, found quinine and cinchona to be sure prophylactics.

Coming now to our own countrymen, Dr. Bryson was in its favour. My friend the late Surgeon-Major Parke, ten days before entering the mouth of the Congo, gave the officers 4 grs. daily. There were only two cases of slight intermittent fever, although 350 miles of the most unhealthy region were passed through. At Peshawar in 1866, during the autumn 1,203 men took quinine with an admission of 10·22 per cent. for malarial fever; 1,202 men who had no quinine had an admission rate of 27·28 per cent. for fever.

As regards my own results, they are gathered from the Sikhs and Goorkhas, so that no disturbing elements of race or station were involved. In 1889, whilst in charge of the 14th Sikhs at Peshawar, the regiment having suffered to an unusual extent from malarial fever during the preceding year at Jhelum, A Company took from August 2nd to October 31st 3 grs., increased to 5 grs. during the last week. B Company similarly took the same quantity of cinchona. C and D Companies took arsenic. The results were as follows:

A	Company,	taking quinine,	10	cases of	malarial fever.
B	,,	taking cinchona,	11	,,	,,
E	,,	taking no drugs	24	,,	,,
F	,,		18	,,	,,
G	,,		21	,,	,,
H	,,		13	,,	,,

In 1896 50 men of the 2nd Prince of Wales' Own Goorkha Rifles took 3 grs. of quinine, and had not a single case of fever. The men taking no drug had 6·5 per cent. of malaria. In 1897, 50 men taking 3 grs. of quinine had no malaria. The men of the regiment who took no drug had 9·8 per cent. of malaria. In the Malay war no benefit was observed, or only a very slight one. As regards the West Regions of Africa, Harvey found that the blue-jackets who took quinine had just as much fever as the men who did not. In the Ashanti wars of 1893 and 1896 it proved of no benefit.

Last year the results of an inquiry promoted by Mr. Chamberlain and Dr. Patrick Manson came to hand—133 answers were obtained, proving beyond a doubt that quinine does exert a prophylactic action. Amongst the items that come out are the following: of 42 persons who took it regularly five had no benefit, and 37 had; of 16 persons who took it irregularly one had no benefit, and 15 had; two recommend it for new-comers; two do not recommend it; two recommend it before the rains; one recommends it when feeling depressed; one preferred arsenic; of the whole number it was efficacious in 87·7 per cent.; there was no result in 12·3 per cent.

For the last three years of my service in India I have notes on the curative action of quinine in 367 cases. As regards the value of certain remedies, my plan was to place each patient on a *placebo* for a week, and then, if the fever had not abated, to give an anti-malarial drug. Considering only the cases in which the drug in question was given in attacks, 20 and upwards, quinine comes out best of all as regards the smallest time necessary for administration to stop the attacks, and as regards the number of failures. In 78 cases quinine required on an average 2·11 days, for the cessation of the fever, and had only 2·05 per cent. of failure.

The method of administration was in most cases by the mouth. In those cases, however, where after several days no result occurred, it was given by the rectum in 20-gr. doses as well. Here a cure in nearly all cases resulted. This plan of administration I can certify is most successful. Quinine probably acts by destroying the organism.—*British Medical Journal*, *September* 15, 1900.

13.—NOTES ON THE TREATMENT OF CHRONIC GOUT.

BASED ON EXPERIMENTAL AND CLINICAL INVESTIGATION.

By WILLIAM BAIN, M.D., M.R.C.P., Harrogate.

[From Dr. Bain's paper.]

Exercise out of doors is of undoubted value in chronic gout, and during inclement weather indoor exercise is not to be despised. Levison's assertion that the uric acid excretion is markedly increased by exercise requires modification. If a man of sedentary habits takes a moderate amount of exercise the excretion of uric acid is increased for the first day or two, but if the exercise be continued daily the increase is not maintained. The stimulating effect of regulated exercise upon metabolism is an agent of considerable power in preventing the various manifestations of gout.

Sodium salicylate.—If the retention theory be accepted, our object should be to diminish the production of uric acid in order to relieve the kidneys. It seems very inconsistent for some of the supporters of this theory to advocate the use of sodium salicylate in gout, a drug which undoubtedly increases the excretion of uric acid both in health and in gout. Various theories have been propounded to explain this increase. Some think that so long as the excretion of uric acid is increased the patient must benefit, but though the increase may be beneficial, it may not. Pilocarpin increases the uric acid excretion, but no one, so far as I know, advises its administration in gout. It is true that sodium salicylate relieves the joint pains in gout—how we do not know—but as it increases the formation of uric acid we ought to consider whether its advantages outweigh its disadvantages before recommending it. Colchicum does not seem to have an invariable effect on the excretion of uric acid, yet few doubt its beneficial action in acute gout, and it is also useful in some cases of chronic gout.

The Harrogate Old Sulphur Spring diminishes the excretion of uric acid, and this diminution is not due to retention, as evidenced by the increase in the leucocytes and the gradual rise to the original level after cessation of the waters. Whether this is the explanation of the salutary effect in chronic gout, or whether it is owing to its cholagogue action, I am not prepared to say, although I am inclined to think that it is due to its influence in accelerating hepatic metabolism. When given in conjunction with the massage douche, gouty patients experience considerable relief from their troubles. Doubtless there are some who may attribute the improvement to the douching with hot water and massage ; but, having prescribed the sulphur water without baths or other adjuvants, I can testify to its beneficial influence in such cases. It may be remarked here that if the same routine form of treatment be meted out to all cases of chronic gout, disappointments are certain to occur—in gout the individual should be considered just as much as the ailment.

Potassium iodide is a drug of peculiar value in chronic gout. It appears to retard the development of cardio-vascular and renal changes, and in cases associated with albuminuria there is a diminution in the amount of albumen during its administration. Although it has no influence on the solvency of biurate, it is useful in reducing the inflammatory thickening around enlarged joints. It should be given cautiously, as some patients are very susceptible to it, and it is contra-indicated in advanced renal cases.

Quinine is supposed to diminish the excretion of uric acid, but in an experimental investigation I found a slight increase. Apart from any influence it may possess on the nitrogen excretion, it is an exceedingly useful tonic.

Guaiacum.—It is not an uncommon experience to meet with patients who periodically take guaiacum on their own account with the happiest results so far as their arthritic attacks are concerned. As an eliminator of uric acid there is probably no drug to equal it. Guaiac resin should be taken in compressed form, in doses of 20 grs. twice a day for about a fortnight. After an interval it may be repeated if necessary. It is not advisable to continue its administration uninterruptedly for a prolonged period.

Alkalies.—A good deal of misconception has existed concerning the part played by alkalies in the treatment of gout. That they are of considerable value in the gastric and hepatic complications of gout must be admitted, but that they have any particular influence on the gouty diathesis, or that they increase the excretion of uric acid or the solvency of biurate must be denied. They may possibly have some indirect effect on gouty processes by their action on metabolism, but this is difficult or impossible to prove by experimental investigation. These remarks refer to alkalies in general, and not to particular alkaline salts. It was believed for some time that the alkalinity of the blood was markedly diminished in gout and alkalies were given in order to correct this, but we now know that the alkalinity of the blood is either normal or slightly increased. Hence the treatment of gout by alkalies is practically restricted to disorders of the alimentary tract. The deductions of Sir William Roberts and Dr. Luff drew from their experiments regarding the alleged superiority of potassium over sodium salts in gout cannot be accepted without clinical corroboration. These deductions are based on the supposition that the administration of alkaline salts will alter the alkalinity of the blood, and, therefore, that the sodium salts will hasten the conversion of the so-called quadriurate into the gelatinous or crystalline biurate. I have used the words so called quadriurate advisedly, because it has not yet been proved that uric acid exists in the blood in this unstable form. It is possible that uric acid may enter into combination with some other constituent of the blood than the alkaline salts. On a dozen occasions I have prepared the sodium quadriurate according to Roberts's instructions, and no two samples reacted alike with his standard solution at the body temperature—in some the precipitation occurred in a few minutes—in others it varied from a quarter of an hour to an hour; therefore, experiments performed with such an unstable compound must be more or less unsatisfactory.

One of the most characteristic properties possessed by the blood is its uniformity of composition, and in no particular is this more marked than in the maintenance of its normal alkalinity. Sir Michael Foster states that the alkalinity cannot be increased by the administration of alkalies. If a large quantity of alkali is given to animals it is quickly excreted by the kidneys. Until it has been demonstrated that the alkalinity can be increased by medicinal doses of alkaline salts, it would be safer so far as particular salts are concerned to be guided by clinical experience.

Regarding biurate solvents I do not know of any one superior to pure water, therefore I strongly approve of gouty patients taking a moderately large quantity of water between meals. Dr. Tunnicliffe found from laboratory experiments that tartrate of piperidine had a marked solvent effect on sodium biurate, but I do not think it has been shown clinically to exhibit this effect.

In ascertaining the efficacy of a supposed biurate solvent it should be given both to a healthy and to a gouty individual, while on a fixed diet. If it has no effect on the uric acid in the healthy, but increases the excretion of uric acid in the other case, we are justified in assuming that the drug either eliminates the excess of urates in the blood or increases the solvency of biurate, and subsequently effects its elimination.—*British Medical Journal, June* 9, 1900.

14.—THE PROGNOSIS OF GLYCOSURIA AND DIABETES.

[A leader in the *Medical Record*:]

The interpretation applied to the presence of sugar in the urine depends essentially upon whether it is to be looked upon as a simple glycosuria or as a symptom of diabetes. On the one hand, a transitory failure on the part of the sugar-assimilative functions of the organism may be concluded to exist, while, on the other, the manifestation is to be looked upon as a symptom of an incurable disease. The prognosis must necessarily vary in accordance with the pathology of the morbid process in operation. On the basis of a considerable personal experience, Hirschfeld (*Berliner klinische Wochenschrift*, 1900, Nos. 25 and 26) expresses dissent from the prevailing view with regard to the curability of the diabetes. Improvement, he maintains, is frequently observed, even in severe cases of diabetes, and it may at times reach a degree sufficient to transform a severe into a mild case.

From observations in some two hundred and fifty cases of diabetes, Hirschfeld was impressed with the variability of the glycosuria, improvement taking place far more commonly than aggravation. This was especially marked in mild cases and less so in severe. In analysing the cases an attempt was made to determine in how far prognostic conclusions could be reached from the severity of the functional disturbance in the individual case. Associated conditions, such as the presence of nervous symptoms or complications, afford no indication of the severity of the diabetes. Only from the degree of the glycosuria itself does the prognosis as to the severity of the diabetes seem possible. In this connection the question arises, when can such a degree of improvement be hoped for that the urine will remain permanently free from sugar? The improvement that follows the withdrawal of carbohydrates sets in only in the course of a few months, although the assimilative power is increased immediately afterward. Improvement, further, is less commonly to be expected if the disease is of long standing, and it may be assumed that under such conditions the curative effects of anti-diabetic diet are to a certain degree exhausted. Nevertheless, transitory improvement in assimilative power may be brought about by temporary rigid restriction of the diet and active muscular exercise. In general, it may be said that if in a case of long standing such conditions cannot be established, in spite of restriction of carbohydrates, permanent improvement cannot be hoped for. Exacerbations are due principally to overloading the organism with an excess of carbohydrates. Such exacerbations develop slowly, *i.e.*, in the course of months or even of years, in contradistinction from changes due to extraneous circumstances. At times, it is true, the disease increases in severity without external cause. Such conditions are present principally in young patients, and rarely after the thirtieth year.

In addition to glycosuria, there may be an increased elimination of acetone. In severe cases there is an increased amount of acid present in the urine. It is a debatable question whether diabetic coma is to be looked upon as an acid intoxication. In mild cases the elimination of acetone is but little, if at all, increased. If the amount is large, diacetic acid also is usually demonstrable by the ferric-chloride reaction. Progressive increase in acetonuria is of unfavourable prognostic significance. The patient may feel well, but coma is readily induced, as, for instance, by physical effort or inanition. It is of general prognostic importance that acetonuria, in contrast with glycosuria, more frequently exhibits a tendency to spontaneous increase. In some cases, it is true, the exacerbations are also induced by unfavourable external conditions, and by disease states that exert an unfavourable influence upon the glycosuria. A third metabolic disturbance is to be taken into consideration, viz., deficient absorption of the food. This of itself renders the prognosis unfavourable, as with imperfect utilisation of proteids and fats maintenance of the bodily weight is difficult.

Among extraneous conditions capable of increasing glycosuria, intercurrent disease especially is worthy of mention. Exhausting disease at times, though not always, to a certain degree displaces the glycosuria. Disease of the kidneys, especially, exerts such an influence. On the other hand, the opposite effect also is sometimes observed. The hyponutrition attending most diseases causes diminution in the glycosuria in a large majority of cases of diabetes. In Hirschfeld's experience, however, the majority of febrile diseases were without any influence on the glycosuria. To this rule influenza constitutes an exception in many cases, often causing increase in the glycosuria and coma. Painful attacks of colic, with transitory diarrhœa or constipation, may make their appearance early in cases subsequently attended with deficient absorption. A directly deleterious effect is exerted also by those disorders considered peculiar to diabetes, viz., furuncle, carbuncle, gangrene. In some cases, however, the excretion of sugar is slight. Psychic influences, particularly severe fright, have a bad effect on diabetes ; as have also painful affections, biliary calculi, renal calculi, hypochondriacal delusions.

Cardiac enfeeblement may be a manifestation of diabetes, and it will under such circumstances be relieved by antidiabetic diet. An appearance of well-preserved nutrition is, as a rule, an indication that the disease is not progressing ; but to this there are numerous exceptions. Increase in polyuria is sometimes indicative of aggravation of diabetic functional disturbance. In Hirschfeld's opinion, alcoholism or alcoholic intoxication can scarcely be considered a factor in the etiology of diabetes. He holds that the essential point to be borne in mind is that in cases of diabetes glycosuria is a most variable symptom, with a tendency, especially in recent cases, to undergo spontaneous improvement, unless the organism be overwhelmed with carbohydrates. As to the recognition of alimentary glycosuria as a distinct affection, its brief duration, and the lower percentage of sugar, as well as the absence of characteristic symptoms, such as polyuria and nervous manifestations, can no longer be considered as decisive, while the evidence goes to show that its clinical course is identical with that of diabetes. Finally, Hirschfeld prefers to speak of relative, rather than absolute, recovery or cure, and this he considers accomplished if the patient can tolerate constantly 200 gm. of carbohydrates daily without the appearance of sugar in the urine.—*Medical Record, August* 25, 1900.

15.—PERNICIOUS ANÆMIA :
A STUDY OF ONE HUNDRED AND TEN CASES.

By Richard C. Cabot, M.D.,

Assistant in Clinical Medicine, Harvard Medical School ;
Physician to Out-patients, Massachusetts General Hospital.

[From Dr. Cabot's paper :]

Diagnosis.—In view of the fact that there are but nineteen autopsies in my series, the question may be raised whether I have not included cases of latent gastric cancer or other disease, of which the anæmia was but a symptom. My reasons for thinking differently are as follows :—

(1) In each of the nineteen cases in which an autopsy was obtained, the symptoms, the signs, the course of the disease, and the condition of the blood were of a definite and characteristic type, practically identical in every case, and differing in important respects from the conditions seen by me in any one of several hundred cases of well-identified symptomatic anæmia of *equal severity.*

(2) For purposes of comparison I have carefully studied the symptomatology, course, and the condition of the blood in several hundred cases of anæmia, obviously symptomatic, occurring in the course of æstivo-autumnal malaria, gastric cancer, or nephritis—all of them cases as severe as those included in my present series—that is, all of them showing less than 2,000,000 red cells per cubic millimetre. The distinctive features in the diagnosis of pernicious anæmia are as follows :—(*a*) A slow, insidious onset without recognisable cause ; (*b*) remarkable freedom from pain ; (*c*) striking absence of emaciation (in most cases) ; (*d*) the frequent presence of symptoms suggesting disease of the spinal cord ; (*e*) paroxysmal attacks of diarrhœa and vomiting, occurring without any obvious relation to diet or to treatment, preceded and followed by periods in which digestion and absorption were performed without apparent difficulty ; (*f*) the tendency to great spontaneous improvement in all the symptoms, followed by rapid and inevitable relapse ; (*g*) a reduction in the red corpuscles to a point below 2,000,000 per cubic millimetre, without a corresponding reduction in the hæmoglobin ; a reduction in the number of leucocytes, and especially in the number of polymorphonuclear neutrophiles ; the presence of large numbers of oversized, well-stained red corpuscles, some of them containing nuclei (megaloblasts), together with a tendency to abnormal staining reactions, and to an oval shape in the red corpuscles. The distinctive features in the diagnosis of secondary or symptomatic anæmia are :—(*a*) The presence of a well-recognised cause ; (*b*) the steady progress of the symptoms, especially in malignant disease : if gastro-intestinal symptoms are present they seldom improve spontaneously ; (*c*) emaciation ; (*d*) the blood. This tissue shows usually a relatively low percentage of hæmoglobin, and the number of leucocytes, and especially of polymorphonuclear neutrophiles, is apt to be increased, although this is by no means invariable. The size of the individual red cells is usually normal or diminished, and their centres strikingly pale. Oversized red corpuscles may be present, and may occasionally contain nuclei ; but, as a rule, they are greatly in the minority, and such nucleated red

corpuscles as are present are chiefly of the normoblastic type. The tendency to abnormal staining reactions and to an oval shape in the red corpuscles, is usually much less marked than in pernicious anæmia.

(3) Having established to my own satisfaction the existence of two types of anæmia—the one (pernicious anæmia) on the basis of nineteen autopsies, and of a definite type of symptoms and signs occurring in every case; the other (secondary anæmia) recognised by the existence of an obvious cause, according to the action of which the symptoms progressed or ameliorated—it seems to me justifiable to conclude that the other cases of my series, which were clinically identical with the nineteen on which an autopsy was obtained, were cases of pernicious anæmia, and would have shown typical changes at autopsy, had this been obtainable. Practically, latent gastric cancer with anæmia is the only disease which anyone is likely to confuse with pernicious anæmia. In all such cases which have come under my observation the symptomatology and course, as well as the condition of the blood, has been very different from that of typical pernicious anæmia.

(4) It is a common mistake to suppose that by pernicious anæmia we mean simply a very severe or fatal anæmia. But pernicious anæmia is not always very severe; there are relatively mild cases which run on for several years, and are compatible with a very fair degree of health, although always fatal within six years, so far as my observation goes. On the other hand, a case of secondary or symptomatic anæmia, such as that due to hemorrhage or to malaria, may be rapidly fatal, and yet is easily distinguishable from pernicious anæmia by its symptomatology, and by the condition of the blood. I have no experience leading me to believe that there is any such condition as "secondary pernicious anæmia."

(5) In the initial stages of the disease, and during remissions, diagnosis may be impossible. The same is, of course, true of many of the best known diseases.

(6) The anæmia due to intestinal parasites, especially to the bothriocephalus latus, is entirely indistinguishable from pernicious anæmia. This has been abundantly proved by the magnificent monograph of Schumnn, and if we are to consider bothriocephalus anæmia as *secondary*, as it seems natural to do so, we must admit that this particular type of secondary anæmia is absolutely indistinguishable from the so-called primary or pernicious anæmia. A word may here be said regarding the use of the term "primary anæmia," which means to me simply an anæmia of whose cause we are ignorant. None of the causes as yet adduced to explain pernicious anæmia seem to me satisfactory, although I think there is a good deal of evidence

for believing that it is due to a poison absorbed from the gastro-intestinal tract, and exerting its deleterious effect upon the blood, the heart, the spinal cord, and the gastro-intestinal tract itself. Among these changes I am by no means sure that the anæmia is the most important, and I regard the others as co-ordinate with it rather than as resulting from it. This view is, to my mind, supported by the fact that the severity of the clinical symptoms is not by any means proportional to the degree of blood impoverishment.

Course.—In ninety cases I have accurate data as to the course and progress of the disease; in the others my records are somewhat defective. Out of these ninety, only twenty were progressive. In seventy there was one or more remissions in which great improvement took place, the symptoms for the most part disappearing, the patient's colour and blood-count becoming nearly or quite normal. Twenty-one of these cases were able to return to work, and felt as well as ever. Although it is well-known that pernicious anæmia is not a progressive disease, but comes upon the patient in successive waves or paroxysms, I desire to emphasise the point that the disease rarely goes on progressively from bad to worse, and should be expected to show one or more waves of great improvement—improvement which for the most part occurs without any relation to treatment, and which treatment has no power to render permanent. I have thought it of interest to put together the rate of improvement in some of my cases:—In one case of my series the red cells increased from 1,800,000 up to 5,200,000 in fourteen days; in another the red cells increased from 2,200,000 to 4,000,000 in thirteen days; in another the red cells increased from 1,500,000 to 3,200,000 in twelve days; and in a further case the red cells increased from 1,700,000 to 3,000,000 in fourteen days. It is quite possible, although I have no figures to prove it, that in the periods of decline the red corpuscles may fall as rapidly as they subsequently rise. This possibility is suggested by the fact that one rarely sees pernicious anæmia in an early stage—that is, until the red corpuscles have fallen below 2,000,000 per cubic millimetre. Only four of my cases showed more than 2,000,000 red corpuscles per cubic millimetre at the time of the first examination of the blood.

Prognosis.—Of the seventy cases which I have been able to follow from start to finish, the majority have lasted less than two years; only twelve lasted more than three years, and only two more than four years, the longest being five years. The number of relapses varied from two to five or six. It has seemed to me that such relapses were especially apt to occur in the early spring, and I think it not impossible that a more direct relationship between the progress of the cases and the weather may later be demonstrable. Remissions may occur even after the red cells have fallen as low as a half million per cubic millimetre. In one of my cases the patient went steadily down hill for four months, until he was too weak to leave his bed, and finally became comatose, with convulsions. At this time he was not expected to live through the night, yet he subsequently recovered sufficiently to be able to do light work about his farm. In the active stages of the disease continuous fever may be present, and in two such cases the diagnosis of typhoid was made. Out of the whole series there has not been one genuine recovery, so far as I am aware. Of the twelve who are known to be still alive, eight have been under observation only a few months, and are fast going down hill. Of the other four, two have been under observation for two years, one for two and a half, and one for three and a half years. In the latter case the condition of the blood is now entirely normal, except for a moderate diminution in the hæmoglobin. The patient feels entirely well. Of the nineteen whom I have lost sight of, the majority were getting rapidly worse when last heard from.

Duration.—Of the seventy-nine cases regarding which I have complete data, including the date of death, thirty lived less than one year from the earliest symptoms ; twenty less than two years ; ten lived from two to three years ; seven from three to four years ; and three from four to five years.

Treatment.—Most of these cases received Fowler's solution in gradually increasing doses, continued over long periods. In eight of them bone-marrow was used, either alone or with Fowler's solution. In three of them inhalations of oxygen were given. Personally I do not believe that any of these therapeutic agents have any effect on the course of the disease. I have seen great improvement follow each of them, but when the inevitable relapse later took place, the use of the same remedies proved unavailing. On the other hand, I have several times seen sudden improvement occur, and the blood-count become normal when absolutely no medicine was being given. Several times such improvement followed immediately upon or coincided with an attack of diarrhœa, as if the increased intestinal peristalsis had removed from the system substances which were poisoning it. Acting upon this suggestion, I have of late treated several cases with laxatives or purgatives, in the hope of preventing thereby the absorption of poisonous substances from the intestines. As to the results of such treatment I am not yet prepared to speak.—*American Journal of Medical Science*, *August* 6, 1900.

16.—ON THE SYMPTOMS OF SLIGHT INACTIVITY OF THE THYROID GLAND.

By Dr. Glynn.

[It is not possible to reproduce the whole of Dr. Glynn's interesting and important paper. The cases and some other parts have been omitted.]

It is not my intention to discuss the typical forms of these disorders, due to complete withdrawal of the thyroidal secretion, from excision or fibrosis of the gland, but to offer a few remarks on certain milder forms of constitutional trouble akin to myxœdema, in which the functions of the thyroid are not in abeyance but only abnormally diminished. The symptoms of myxœdema and cretanism are then modified; indeed, sometimes the likeness of these disorders is almost lost; some ill-defined symptoms or isolated feature alone is left. Under these circumstances, the diagnosis often rests on the efficacy or inefficacy of thyroid treatment. If, for example, in a case of obesity, of debility and anæmia, of psoriasis, or of infantilism, or delayed menstruation, we find that benefit follows the administration of thyroid extract, we are warranted in concluding that such disorder is due to deficient activity of the thyroid gland. The symptoms of fully developed myxœdema are striking and readily recognisable. The features, too, of typical cretanism are also equally impressive and unmistakable. In exophthalmic goitre, the symptoms are the very counterpart of those of myxœdema.

Dr. G. R. Murray (*Brit. Med. Journ.*, October, 1898) directs attention to the mild varieties of myxœdema, under the term of "Early Thyroidal Fibrosis"; and more recently, Dr. Hertoghe, of Antwerp, describes various symptoms which he considers originate in a slight decrease in the activity of the thyroid gland, under the term "L'Hypothyroïdie Bénigne Chronique." The symptoms, Dr. Murray especially notes, are some yellowness or pallor of the skin of the face, accompanied by a pink flush on the cheeks; subcutaneous swelling, as a rule slight, and not well marked, even in the eyelids, nose, or lips; dryness of the skin, with frequently scaly patches on the knees and elbows; hair perhaps scanty. While the adjective symptoms are thus ill-defined, he points out that the subjective symptoms are marked: they are, lassitude easily induced, visual and auditory hallucinations not uncommon, the former taking the form of ill-defined objects, sometimes thought to resemble mice, rats, cats; noises, such as bells ringing, or even voices may be heard. "These nervous symptoms occurring in women between 40 and 50, may be mistaken for those which commonly occur at the menopause.

It is interesting to compare the collections of symptoms Dr. Hertoghe gives as characteristic with that given by Dr. Murray. Obesity and irritable skin roughness, &c. ; subnormal temperature, with sensations of chilliness ; hands cold, moist, blue ; sallow, yellowish skin, and other evidence of liver trouble ; falling and premature greyness of the hair ; decay of teeth and unhealthy gums ; enlarged tonsils, and adenoids. Pains in the joints, often regarded as rheumatic ; oppression of respiration on exercise ; headache, worse in the morning ; constipation ; menorrhagia. Similar symptoms are noted by both authors ; but Dr. Hertoghe sees in defective activity of the thyroid the origin of so many forms of disturbance of nutrition and function, that we cannot accept his views in their entirety without further evidence. A simple remedy for adenoids and enlarged tonsils would be welcome, and some of you may think it worth while to try thyroid extract in these affections ; my experience of its use in this direction has not been sufficiently extensive to be of value, nor have I had the opportunity of testing the action of the drug in menorrhagia. I have, however, found in thyroid extract a valuable remedy in other conditions of ill-health, presenting certain of the group of symptoms first referred to. Two conditions very characteristic of cretanism and of myxœdema in the young, namely, arrest of growth and delayed puberty, need a moment's attention. That a normal supply of thyroid secretion is necessary for the growth and development of the young has been abundantly proved by experiment and clinical research.

The thyroid gland plays an important rôle, not only in the physical and intellectual development of man, but exercises a specific action on the growth of the generative organs of the two sexes. At the epoch of puberty the thyroid develops at the same time as the genital organs ; in all probability an increased thyroid activity precedes the evolution of these organs, since we have positive evidence of the influence of thyroid given on the sexual organs in cases of cretanism. Murray says :—"I would point out the importance of carefully considering the possibility of the presence of disease, or of lack of development of the thyroid gland, in every case of arrest or delay of development in children. It all such cases it is important to look for slight signs of cretanism. There are, of course, other causes of arrest of growth, as achondroplasia ; but I have seen several cases where the ordinary symptoms of cretanism were not distinct, in which the rapid improvement following thyroid treatment has proved that arrest of development was due to thyroidal insufficiency." Hertoghe considers that infantilism and other forms of retarded development are always the consequence of defective thyroid secretion.

I may briefly notice another class of case where I have found the thyroid medication useful, namely, in the amenorrhœa of young subjects. Menstruation in the female is the signal that puberty is established—that the evolution of the generative organs is perfected. In delayed or irregular menstruation it is reasonable to try the effect of small doses (say grs. ii½ at night) of thyroid extract. In my hands it has proved useful in a number of cases, though, as might be expected, it has failed in some. Whether Dr. Hertoghe is justified in holding that retarded development in every instance depends on thyroidal insufficiency, is open to question. The truth of his hypothesis may be tested clinically or pathologically. Cases of retarded growth, associated with congenital and acquired heart-disease, congenital syphilis, and rickets, are common; in these the thyroid treatment should be tried, and attention directed at post-mortem examinations, when opportunity offers, to the condition of the thyroid gland. Dr. Hertoghe points out that if cases of myxœdema are investigated in regard to personal and family history, evidence of the existence of the disease in a mild form in childhood may be elicited, and evidence also of the existence of the like affection in its mild or severe form in the mother, or in the brothers or sisters, or a history of syphilis, tuberculosis, alcoholism, gout, or other cause of hereditary degeneration, will be found in the case of one or both parents. The mild forms become aggravated under various depressing circumstances that lead to increased thyroidal exhaustion—repeated pregnancy, prolonged lactation, and the privations of all kinds to which the poorer classes are at times subjected; so that myxœdema, after puberty, is much more common in females than in males. Myxœdema, in its earlier stage, is, I believe, often overlooked, and the disease is allowed to develop till the sufferer is more or less incapacitated. We have, in the thyroidal medication, not only the remedy for myxœdema, but we have in it also a means of relieving other less definite conditions of impaired health and function.—*Liverpool Medico-Chirurgical Journal*, *July*, 1900.

17.—THE TREATMENT OF SIMPLE GOITRE IN YOUNG ADULTS.

By George R. Murray, M.A., M.D. (Camb.), F.R.C.P.,
Physician to the Royal Infirmary, Newcastle, &c.

[From Dr. Murray's paper:]

In this short paper I wish to draw attention to the satisfactory results which can be obtained by the medical treatment of some forms of enlargement of the thyroid gland in young adults, as these results appear to be scarcely as well known in this country as they deserve to be. This has been impressed upon me by seeing several cases of goitre in which operative treatment had been proposed as the only means of relief, but which improved so much under medical treatment that no operation was needed. The most favourable cases of goitre for medical treatment are undoubtedly those of simple parenchymatous enlargement of the thyroid gland occurring in adolescents and young adults. In these there is a uniform general enlargement of the whole gland, which comes on gradually and painlessly. At first there is merely some fulness of the neck, which may cause no inconvenience, or may escape notice altogether. As the goitre increases, however, it attracts attention by its size and by the increasing tightness of the collar. As the goitre grows still further, the discomfort it causes is increased, and there may be dyspnœa from compression of the trachea. It seems probable that in this form of goitre there is a true hypertrophy of the gland, which occurs in response to some demand for an increased supply of its secretion. In some cases it appears, however, that the hypertrophy, once started, continues to increase until it passes physiological limits, becomes pathological, and does not diminish without suitable treatment. In these cases treatment by thyroid extract, so as to supply for a time the excess of secretion which is required from an external source, is of great service. When the extraordinary demand for thyroidal secretion is thus supplied, the hypertrophied gland is able to pass into a resting condition, and undergoes a partial atrophy, with corresponding diminution in size. In this respect the enlargement may be compared to that of the mammary gland during lactation, which, as soon as the child is weaned and the demand for its secretion ceases, returns to a resting condition and decreases in size.

In selecting suitable cases for this treatment, it is most important to ascertain that symptoms of exophthalmic goitre, such as frequent pulse, exophthalmos, nervousness, tremors, &c., are entirely absent, for in cases of this disease the symptoms are often aggravated by thyroid extract. In carrying out the treatment, either liquid thyroid extract or dry thyroid may be given. I use the two official preparations, liquor thyroidei and thyroideum siccum. The former may be given in doses of 15 minims, twice or thrice a day, and the latter in doses of three or more grs. two or three times a day. The relative strength of these two preparations has been kindly estimated for me by Messrs. Brady and Martin, who found, by weighing over 1,300 lobes of the thyroid gland of the sheep, that the average weight of each fresh lobe, stripped of its covering, was 31⅓ grs., or 62⅔ grs. for the two lobes together. When dried, each lobe yielded 8 grs. of dry thyroid powder. An average of over 600 lobes yielded 48 minims of liquor thyroidei for each lobe, so that 1 gr. of thyroideum siccum is equivalent to 6 minims of liquor thyroidei. In some cases inunction of red iodide of mercury ointment has been used as well, but the result obtained in one case shows that this may be omitted.

[The details of three cases occurring in two girls, both aged 13 years, and one lad aged 16 years, are omitted here. The results were very satisfactory.]

These examples serve to show that by this method of treatment a simple goitre may be reduced to two-thirds, one-half, or even one-third of its former size in a favourable case, but rarely disappears altogether. The dyspnœa is entirely relieved, as well as the discomfort arising from the size of the swelling. The superficial veins also are much diminished in size. This is a most important point, as I think in all cases of goitre which are going to be subjected to an operation, the patient should be first treated by thyroid extract for two or three weeks before the operation. By this means the size of the goitre may be somewhat lessened, and the superficial veins diminished in size, so that the operation will be more easily performed. I believe this is frequently done by Professor T. Kocher, of Berne. Even in goitres in which adenomata or cysts are present, some diminution in size may be effected by this method of treatment, not by any decrease in the size of the adenomata or cysts, but by atrophy of the gland substance in which they are embedded, so that, in these cases also, treatment by thyroid extract previous to an operation would simplify the latter in many instances.

The following results obtained by this method of treatment by different observers have been collected by F. P. Kinnicutt:—Bruns reported sixty cases of non-malignant and non-cystic goitre, fourteen were cured, twenty-nine were improved, and seventeen were not improved by this treatment. Knoefelmacher observed marked diminution in the size of the goitre in eleven out of twenty-one cases, but in none did it disappear entirely. These eleven varied from 2 to 17 years of age, and in nine of them the goitre was of the hyperplastic type. In five other cases of colloid goitre, the size was diminished distinctly, and in the remaining five no improvement took place. Angerer found in all of his seventy-eight cases, in which the treatment was tolerated and carried on for several weeks, that the goitre diminished in size. His experience agrees with mine, in that he obtained the best results in simple, soft, hyperplastic goitre, especially when it occurred about the age of puberty. He also found in cystic goitre that, owing to the atrophy of the hypertrophied tissues, the cysts became more superficial and their removal easier. In Stabel's cases improvement was observed in 92 per cent of the cases. He found, however, that when the treatment was discontinued, the goitre began to increase again in from four to six weeks' time.—*Edinburgh Medical Journal, August*, 1900.

18.—CHRONIC BRASS POISONING.

[From a leading article in the *Medical Record*, August 4, 1900:]

Poisoning with lead, as also with mercury, arsenic, silver, copper, &c., results occasionally from excessive or prolonged administration of these metals or their compounds for therapeutic purposes. Mercurial poisoning may occur also in those engaged in the manufacture of mirrors, and arsenical poisoning has been attributed to the inhalation of vapours from wall-papers impregnated with arsenical colours. Copper poisoning is not commonly observed, although it may occur in those engaged in operations into which either the metal itself or its alloy with zinc, namely brass, enters. A good clinical description of this condition as it occurs among artisans in brass at Birmingham, England, is given by Murray (*Brit. Med. Journ.*, June 2, 1900, p. 1334). The patient is likely to be a young workman, presenting a more or less markedly anxious expression, with a thin and haggard face, a sallow complexion, and an unhealthy and wasted appearance. He complains of gradual loss of strength, with a dry and hacking cough, cold sweats, and, possibly, hæmoptysis. Pain in the chest, loss of appetite, and progressive emaciation in addition, raises a suspicion of pulmonary tuberculosis, but careful examination of the chest fails to disclose signs of disease of the lungs, except, perhaps, those of slight bronchial catarrh. The urine is normal. The nature of the disorder is not clear, and symptomatic treatment fails to yield relief. Other cases of a similar character present themselves, and finally it is learned, upon inquiry, that all occur in those who are engaged in some way in manipulating brass—such as stamping, finishing, polishing, &c. Examination will now disclose a typical green line on the teeth, probably due to deposition of copper.

One of the earliest symptoms is anæmia, and with it there are often associated palpitation of the heart and dyspnœa on exertion, digestive disturbances, anorexia, and epigastric pain after food. Tachycardia is common, while nausea, vomiting, and thirst are not infrequent. Slight indefinite pains of a neuralgic character may be complained of early with headache, a sense of weakness, malaise, and nervousness. As the disease progresses, emaciation becomes conspicuous, with loss of strength, and tremor. The knee jerks are normal or exaggerated, unless peripheral neuritis is present. Headache is almost always present, as well as pain varying in character and situation, neuralgic and myalgic, principally in the abdomen, then in the legs, the back, the chest, &c. As a rule, digestive disturbances are present, with loss of appetite and gastralgia, and occasionally nausea and vomiting. The tongue is generally coated, moist, and tremulous. The bowels are normal, loose, or confined. There may be a dry, tickling cough, sometimes with thick, tenacious sputum, and occasionally hæmoptysis. The pallor is distinctive, the complexion being sallow, dirty, and unhealthy-looking. Symptoms of laryngeal or pharyngeal catarrh are not uncommon, with aphonia, a sense of dryness or discomfort or constriction in the throat, and a metallic taste. A feeling of oppression or nervousness, sometimes intense, is common, and so are repeated attacks of faintness or sinking, in the morning or at work. Profuse sweating may be a source of annoyance, and there may be a sense of coldness, possibly confined to one part, as the knees, the legs, or the chest. The sweat stains the linen and also the hair green. Itching cutaneous eruptions appear in various parts of the body, but there may be itching without visible eruption. Pulmonary fibrosis is common, and paraplegia due to peripheral neuritis may occur. Poole (*Brit. Med. Journ.*, June 9, 1900), refers to marked pulsation, either local or general, of the abdominal aorta as frequently associated with the advanced stages of chronic brass poisoning, and which he thinks may be due to vasomotor disturbances.

In treatment potassium iodide failed to yield anticipated results, but phosphorus, in pills of gr. 1/30 three times a day, and dilute phosphoric acid in doses of ♏ xv. three times a day, yielded satisfactory results. The use of milk as a beverage was found to be of distinct advantage.—*Medical Record*, *August* 4, 1900.

19.—TOXINS AND ANTITOXINS.

By A. C. O'Sullivan, M.D., F.T.C.D.

[From Prof. O'Sullivan's paper :]

Let us collect the facts which have been established, and see if they do not lead naturally to a hypothesis as to the nature of the interaction of these bodies :—(1) The toxin enters into chemical, or molecular, combination with the cell protoplasm, and when in this combination is neutralised—*i.e.*, is innocuous for other cells. (2) The toxin enters into chemical combination with the antitoxin, and when in this combination is neutralised. (3) The antitoxin is produced by the cell, and is thrown off by the cell into the blood. (4) The cells which produce the antitoxin are the same cells as those which combine with the toxin.

Now what could be more otiose than to suppose that the element in the blood which proceeds from the cell and neutralises the toxin in the blood is not the same element which neutralises the toxin in the cell. We are almost forced to the conclusion that it is the same. And so we arrive at the first part of Ehrlich's hypothesis, "That element, or group of atoms, in the cell protoplasm which combines with the toxin, when it is thrown off by the cell into the blood, *is the antitoxin*." But we have seen that it is the action of the toxin on the cell, and that only, which stimulates the cell to produce the antitoxin—that is to say, when any of the combining groups of the cell molecules are taken up by the toxin they are replaced by the cell, and replaced in very much increased numbers, as usually happens in all tissue regeneration. Ehrlich supposes that these combining groups, when they become numerous, lose their hold on the cell molecules, and pass over into combination with the molecules of the fluid in which the cell is bathed, and so get into the blood, and that the injection of a given quantity of toxin will stimulate the cells to produce many hundred equivalents of antitoxin. But there is more than this, for toxin does not merely combine with cell protoplasm, it also destroys it. There is plenty of evidence to show that the part of the toxin molecule which poisons is not the same as that which first combines with the cell molecule. The toxins of diphtheria and tetanus, when kept in the liquid state, gradually lose their toxic power down to a certain point, but they do not lose their power of combining with antitoxin. It takes exactly the same quantity of antitoxin to neutralise a given quantity of toxin, no matter how long it has been kept, or how weak it has become. So, in Ehrlich's terms, the haptophore group in the toxin molecule remains unaltered, while the toxophore group is changed. Thus the toxophore group is much less stable, and less rapid in combining than the other, and hence is probably much more complex.

There are many facts connected with the infectious diseases which appear paradoxical, but which receive a ready explanation by means of this hypothesis—*e.g.*, what is a naturally immune animal? A naturally immune animal is one whose protoplasm molecule contains few or none of the groups capable of combining with the toxin in question. Again, the incubation period of a disease, which appears in poisoning by toxins as well as by the living organism, is the time in which it takes the poisoning group to get to work after the toxin has been anchored on the cell molecule by its combining group. Again, it is found that the production of immunity and of antitoxin, although the cause of both is the same, do not at all run parallel to one another in amount. You may have an animal in the early stages of immunisation which is hypersensitive to the poison, while its blood is full of antitoxin ; and, on the other hand, in the later stages animals are often found to be practically completely immune, while their blood yields no antitoxin at all.

As to the first case (Cobbett) the cells of hypersensitive animals are (on Ehrlich's hypothesis) actively producing combining groups which, as long as they are still attached to the cell molecule, form so many additional sources of infection. In the second case we may very naturally suppose that the power which the cell has of producing these groups is limited, and finally becomes exhausted, and the animal becomes the same as a naturally immune animal. There are many other points of interest connected with this hypothesis, and especially in relation to the quantitative estimation of serum and toxin, but I will leave these questions untouched, being satisfied if I have put this somewhat complicated matter in such a way as to make it intelligible to those of you to whom it comes as a new idea.—*Dublin Journal of Medical Science*, *June*, 1900.

20.—HEROIN AS AN ANALGESIC.

By SAMUEL HORTON BROWN, M.D.;
and
ERLE DUNCAN TOMPKINS, M.D.,
Resident Physicians in the Howard Hospital.

[From Drs. Brown and Tompkins's paper :]

Morphine, as is well known, often causes vomiting ; if not vomiting, it produces nausea varying in degree and intensity. After laparotomies particularly, it is desirable to avoid vomiting from any cause whatever, for fear of increasing the strain upon the ligatures and sutures. The same may be said of plastic operations. In both these forms of gynæcological procedures the pain is great in amount and often excruciating, necessitating an analgesic of some sort, preferably one free from all properties disadvantageous to the patient from an operative standpoint. Morphine in the past has been taken as the lesser evil, the bad effects from it not being as great as if the drug was not used.

Where the pain continues and repeated hypodermic injections of morphine have to be administered, the ill effects seem to accumulate. Prompted by the action of heroin in relief of pain in angina pectoris and influenza, we decided to try this drug in the gynæcological service here, and having had success in this respect, we have collected our cases and are prepared to report our experience with it to the profession.

In our work, however, the hydrochlorate has given the best results. It is incompatible only with apomorphine and the alkalies. The dose is one-twelfth to one-sixth of a grain, and can be repeated. It was first used in medicine as a substitute for codeine for coughs and conditions attended with cough, and met with unqualified success. It has also been used in all pulmonary affections, cardiac diseases, angina pectoris, diabetes, neuralgia, asthma, narcotic inebriety, and advanced arterio-sclerosis, with success worthy of mention. It has also been used as a substitute for morphine, in the cure of chronic opium poisoning, and in tampons for local application in gynæcological practice. As a hypnotic it is of value in producing sleep peaceful in character, yet free from disagreeable after-effects. As an antispasmodic it has also been used.

We requested that each administration should be noted as regards (1) the interval which elapsed between administration and beginning of the effect; (2) a description of the effect that took place; (3) whether any action on the pupils; (4) whether or not vomiting followed its administration; (5) whether any perceptible effect upon the bowels; (6) duration of the action of the drug. Under the tabulation we were able to collect fifty cases, of which the indication was for the relief of pain in thirty-four cases, and as a hypnotic in sixteen cases. In all but seven cases sleep was produced and pain was relieved. The action of the drug took place in fifteen minutes from the time of administration in twenty-five cases; in twenty minutes in eighteen cases; in the other seven cases no effect was produced. The dose in thirty-four cases was one-twelfth of a grain of the hydrochlorate; in sixteen cases one-sixth grain was given. In thirty cases the duration of the action of the drug was four hours, in thirteen cases from six to eight hours, and in seven cases no appreciable effect was noted. Thirty-one administrations of the drug were given by means of hypodermic injection, the remaining nineteen by mouth. Vomiting was absent in all but four cases, and as these administrations were made before the patients had fully recovered from the effects of ether, it would be difficult to say which was the cause of the vomiting. Contraction of the pupils and subsequent constipation were absent in all cases. We did not find any idiosyncrasy for the drug, such as has been reported by other observers.

From the foregoing it would appear that heroin is a safe, reliable analgesic, one which can be repeated if necessary without producing habit or doing harm in any way. At least this has been our observation and the conclusions which we have drawn. We think that such data as we have collected would at least justify the use of heroin as a hypnotic and as an analgesic.—*The Therapeutic Gazette*, *August* 15, 1900.

21.—SOME OF THE NEWER THERAPEUTIC MEASURES.

[The following is taken from a leading article in *The Therapeutic Gazette*, August 15, 1900 :]

Among drugs effecting vasodilatation, and which have been employed with success in relieving arterial tension, the most modern addition has been erythrol tetranitrate, administered preferably in chocolate tablets containing half a grain. In a paper read by Dr. Hugh Walsham at the British Medical Association, it was shown that patients suffering from various forms of heart disease, from interstitial nephritis, and from Raynaud's disease, were benefited by the drug, and in Bright's disease Dr. J. B. Bradbury cited an instance of sleeplessness being relieved by using the tablets. Hydrobromate of hyoscine administered hypodermically in doses of from $\frac{1}{200}$ to $\frac{1}{100}$ of a grain two or three times a day has been employed with rapid improvement and permanent good effect in chorea.

In tropical dysentery an extract and tincture of the *Monsonia Burkei* of the South African karoo, collected and introduced by Mr. John Maberley, have proved of great value not only in dysentery, of which one hundred consecutive cases treated with the drug with only one death are reported by Mr. Maberley, but also in hemorrhagic ulceration of the stomach and intestine. The drug has a long-standing reputation among the natives and the Boers, but has only recently been identified and used in Europe in cases of acute and chronic ulceration of the stomach and intestines.

Methylene blue administered in the form of a pill with about half its weight of powdered nutmeg, and in doses of from one to six grains three times a day, owing to its recognised selective affinity for the nerve cells and axis cylinders in living animals, has proved of considerable value in such affections as sciatica, migraine, neuralgia, and herpes. In diabetes mellitus, methylene blue appears to act somewhat in the same manner as antipyrin.

When given in full doses up to six grains three times a day during a period of six weeks, sugar has been found to disappear from the urine. Locally the drug diminishes the pain of cystitis and gonorrhœa, the urine being highly charged with the drug, and acquiring a bright green or blue colour when it is given internally. In cases of gonorrhœa complicated with rheumatism or neuritis, it has proved of special advantage. In simple rheumatism the drug has also been given with good effect, as it has in intermittent fever, both in the acute stage and for the relief of the after-effects, such as enlargement of liver and spleen. The general effects of the drug resemble those of antipyrin and salicylic acid; when given after food with powdered nutmeg it excites little irritation in the stomach, the most noticeable feature at the time being the coloration of the urine, of which patients should be warned.

The use of aluminium chloride in doses of five grains and upwards repeated three times a day has proved remarkably efficacious in locomotor ataxia. Though given originally for the purpose of relieving the lightning pains in this affection, it has in some cases effected considerable improvement in the gait and general condition of the patients.

Synthetically prepared salicylate of methyl (artificial oil of wintergreen) is an excellent local application in rheumatic and gouty affections when these are of limited extent. It is of striking value in isolated arthritis and tenosynovitis, has been followed by recovery in three or four days in long-standing cases of erythema nodosum, and in muscular rheumatism has afforded immediate relief. As a local application, oil of wintergreen has an advantage over the internal administration of salicylates in not disturbing the digestive organs, and in the more rapid effect of the remedy. The oil should be applied by sprinkling from thirty to sixty drops on folded gauze covered by oiled silk, and bandaging the application firmly over the affected region; its efficiency is promoted by steeping the gauze in hot water so as to combine with it the effect of a hot fomentation. The odour, though aromatic, is very penetrating and lasting, and is very noticeable in a room or even in a large ward.

DISEASES OF THE NERVOUS SYSTEM.

22.—INSANITY AND MARRIAGE.

By R. PERCY SMITH, M.D., F.R.C.P. Lond.,
Lecturer on Psychological Medicine at Charing Cross Hospital, &c.

[The following is from Dr. Smith's address on "The Prevention of Insanity," before the British Medical Association, 1900 :]

I submit that there is no more important problem for the twentieth century than the possibility of diminishing the numbers of the insane by their non-production. Among the more educated classes of the community there is, judging by the fact that those specially concerned in the treatment of mental disorders are often consulted on the subject, a recognition of the fact that the presence of insanity in a family at least demands from its members some serious reflection before marriage is entered upon. Unfortunately, medical men themselves, unless they have had experience in an institution for the treatment of mental disorders, are not always sufficiently alive to the dangers of the propagation of the race from defectively-constituted individuals, and are sometimes apt to pooh-pooh any possibilities of risk in cases in which they are consulted and to give the opinion that there is no danger in a marriage between two persons of neurotic or insane stock, provided the individuals themselves are apparently sound or have been so up to that time. It is perhaps well understood that in a question of marriage between cousins where there is insanity or any serious neurosis in a common ancestor or in the two separate families the idea of marriage ought not to be entertained, but it is often overlooked that danger exists in the intermarriage of members of two families not related, but where there is insanity or neurosis on both sides. It is very unlikely that the Legislature will ever intervene to interpose any legal bar to marriage of individuals of insane inheritance. Public opinion will have to be educated more and more to understand the importance of not propagating from bad stocks, and it is safe to lay down as a rule that no person of direct insane inheritance ought to marry with another of direct insane or neurotic inheritance, and that even if a person of stable inheritance .proposes to marry with a person of insane inheritance, this latter fact of inheritance ought to be known and stated beforehand. In many cases this is done honourably, but in other cases the fact of insane inheritance of the most direct nature is concealed, as if the chief object in life were to propagate defective individuals. In other cases concealment takes place from ignorance or carelessness. I conclude that it is the duty of the medical profession to give sound advice to those who consult them on this matter, and not to lose sight of the fact that inheritance is the largest cause of insanity as shown by statistical tables.

If, however, there is doubt as to the marriage of persons of insane inheritance, there should be little doubt as to what ought to be the course and what ought to be the advice given in the case of persons who have themselves suffered from a definite attack of insanity, and in such cases marriage ought, as a rule, to be forbidden absolutely. Deplorable cases must be familiar to the minds of all those connected with psychiatry where patients who have recovered from a severe attack of mental disorder necessitating confinement in an asylum have subsequently married, and either broken down again or propagated children defective from birth or breaking down at the critical periods of life.

A great difficulty is presented in the case of those who break down subsequently to marriage but recover, and where the woman is still of a child-bearing age. It is impossible to go deeply into this matter, but it is an important question when, for instance, a woman has had puerperal insanity after the birth of her first child whether she ought further to reproduce her kind. The answer to this, in my opinion, depends largely upon whether the puerperal attack depended simply upon what may be called an accident, as, for example, some septic condition, or whether it is merely the expression of an inherited neurosis which first appears at the puerperal epoch. In the latter case one feels that it would be best that the woman should cease child-bearing ; but here again it is impossible to do more than advise to that effect, the advice given being in most cases not followed. In the case of a woman who has a puerperal attack after the birth of each child there can be no doubt of the unsatisfactory nature of the children she is bringing into the world, and that such a bad stock ought not further to be reproduced ; but how to effect this except by advice it is difficult to see. The new civil code in Germany enacts that continuing insanity of over three years in duration is a ground for divorce, but I apprehend that in this country such a measure would have no chance of being placed on the statute-book in view of the fact that recovery may take place after a longer period than that, that where there are children their position would be rendered socially unpleasant, and that marriage is "for better or worse," and that the accident of disease should not be allowed to absolve a husband of his obligations. There is no doubt, however, that some such enactment would assist in putting an end to the chance of reproducing a bad stock. Again, marriage ought not to be permitted in the case of chronic epileptics, whether the disorder be of the nature of *petit mal* or *grand mal.—The Lancet, August* 11, 1900.

23.—THYROID TREATMENT IN MENTAL DISEASE.

By C. C. EASTERBROOK, M.A., M.D., M.R.C.P. E.,
Senior Assistant Physician, Royal Asylum, Morningside, Edinburgh.

[The following is taken from Dr. Easterbrook's paper on "Organo-Therapeutics in Mental Diseases."

Out of 130 patients treated, 12 recovered, 29 were improved, and 89 were unimproved. Twelve recoveries out of 130 cases is just over 9 per cent. If, however, the obviously incurable cases be eliminated, namely, the 30 "congenital" and "chronic" cases in the above list, there remain 100 cases with 12 recoveries, or 12 per cent. of recoveries for all cases of insanity which were not hopeless but were found to be intractable by ordinary methods. In the case of the 45 males, if we eliminate the 10 incurable cases, there remain 35 cases with 3 recoveries, or only 8·5 per cent. In the case of the 85 females, if we eliminate the 20 incurable cases and the myxœdematous case that recovered, there remain 64 cases with 8 recoveries, or 12·5 per cent. of recoveries of ordinary intractable insanity. My experience, therefore, indicates that the thyroid treatment of insanity is more efficacious in women than in men, and from the above table it will be seen that the best all-round results were obtained in the insanities connected with childbearing. My results may thus, perhaps, indicate that the thyroid gland is functionally more active in woman than in man.

All my recoveries were test cases in the sense that previous treatment had been well tried, but had failed. None of them relapsed. The duration of asylum treatment before thyroid administration averaged eight months for the cases that recovered. The patients' ages varied from 20 to 46, but were mostly between 20 and 30. The recoveries included 1 adolescent stuporose maniac (male), 1 masturbational stuporose melancholiac (male), 3 puerperal stuporose maniacs, 1 lactational simple melancholiac, 1 myxœdematous stuporose melancholiac, 1 idiopathic stuporose maniac, 1 idiopathic stuporose melancholiac (male), and 1 idiopathic simple melancholiac, and, finally, 2 climacteric simple melancholiacs. Hence, as regards the mental states at the time of treatment, of the 12 patients who recovered 8 were stuporose

(5 being of the secondary or maniacal type, and 3 of the melancholic type), and 4 were in a state of simple melancholia. Large doses of thyroid were used in every case of recovery. I have had no case of recovery (except the myxœdematous patient) with small or moderate doses. This seems to indicate that it is the briskness and intensity of the metabolic reaction produced which is the valuable effect of thyroid in large doses in insanity, and I am inclined to think, from the clinical type of case which is most commonly benefited by thyroid, as well as from the condition of the urine during thyroidism, that the drug owes much of its value to its power of clearing out of the system various transition and probably toxic products of metabolism. All the patients who recovered reacted well to the drug, the test of the reaction being the loss in weight rather than the pyrexia, and more particularly the subsequent gain in weight. The average loss in weight was 7 lbs. and the average gain in weight afterwards was 14 lbs. in the patients who recovered, and usually the physical improvement preceded the mental, though sometimes these occurred *pari passu.* Physical improvement was present in all the patients who recovered or improved mentally, and also in nine of those who were unimproved. It was evidenced in all cases by the subsequent gain in weight over that prior to treatment, and also in many cases by a healthier appearance of the skin. Five of the 130 patients treated who were either improved or unimproved by thyroid at the time, but who did not recover by its use, finally made good recoveries. They suffered respectively from adolescent, puerperal, alcoholic, idiopathic, and climacteric insanity. This indicates that a patient who is not cured by thyroid may still recover by other means. At the same time, in my experience, if a patient is going to recover by thyroid treatment at all, recovery will occur at the first administration of the drug in large doses. In 22 patients to whom the drug was given on more than one occasion, not a single recovery was secured. Thyroid extract at the same time has its uses in chronic insanity. Thus many patients who are becoming demented are temporarily improved in expression, talk, and habits. In *folie circulaire* I can corroborate the experience of Bruce, who has found the drug useful in aborting the maniacal attacks. No ameliorative or rousing effect occurred in one case in which I gave the drug during the melancholic phase. Similarly in chronic mania of distinctly recurrent type I have found the attacks aborted by large doses of thyroid. The essential point is to give the drug early, before the attack becomes established, otherwise it is more likely to aggravate the storm than to calm it. In these cases, also, I think that thyroid probably acts by freely stimulating the metabolism, and ridding the economy of transitional and toxic products.—*British Medical Journal*, *September* 22, 1900.

24.—THE EPILEPTIC: HIS TREATMENT AND CARE.

By F. NORTON MANNING, M.D.,

Late Inspector-General of the Insane for New South Wales, Sydney.

[From Dr. Manning's paper :]

The movement to establish colonies for sane epileptics has hitherto been directed entirely by private effort, and this is continuing—the Lewis trustees being about to establish another colony for 250 inmates from Lancashire, Cheshire, and the adjacent counties at Chelford, in Cheshire—but the local authorities in England are becoming alive to their responsibilities, and to the advantages of the system. The London County Council has decided to build at Horton Manor, near Epsom, on an estate of 127 acres, eight or nine detached cottages, to accommodate 300 patients; and other local authorities are engaged on the preliminaries for making similar provision.

Coincident with this movement in Great Britain, similar institutions have been started in Germany. At Bielefeld, in Westphalia, 1,100 epileptics are employed in farm and garden work and other avocations, and on the same estate there is an institution for the education and instruction of epileptic children, and an asylum for the more imbecile epileptics. At Zurich, at Potsdam, and at Stettin, similar colonies have been established. The Bethel colony at Bielefeld is not only the largest and best known of these, but is in many ways the most interesting. Started in 1867 by a Lutheran community with "four patients and God's blessing," it has now attained very large dimensions. 1,500 epileptics of various grades, brought from several of the German states and other parts of Europe, are now ministered to by a small army of officers, nurses, and employees, including eleven physicians and six pastors. From a report published in 1898, it appears that 5,028 epileptics have been admitted since the colony started, that 388, or 7·7 per cent., have been cured, and 1,099, or 21 per cent., relieved; but what is really more important, only 47 have been turned over to institutions for the insane. The general result, small as is the number of recoveries, must be considered as satisfactory, and as showing the uses of such an institution in preventing or arresting mental enfeeblement. In considering the cures, although patients are discharged at the end of two years spent without an attack, no case is added to the list of complete recoveries until four years have been passed without a fit. It is difficult to discover exactly what eleven medical officers find to do in this community, but no doubt the work is done with German minuteness, and the records are certainly kept with an attention to detail which is somewhat amusing. It may interest someone (though it is difficult to say exactly who) to know that "166,663 fits occurred in the community in 1897, of which 84,865 were severe, 8,580 light, and 73,213 were quite short attacks of epileptic giddiness."

The Craig colony, in New York State, is the best known, though not the only place established on similar lines in the United States, as in Ohio, Massachusetts, New Jersey, California, and twelve other states there are epileptic colonies or villages. The colony in Ohio provides for 900 inmates, of whom 200 are insane, and are located in separate buildings. The lesson which these colonies have taught is, that if you put your epileptic patient early enough under favourable conditions, give him suitable employment as much as possible in the open air, withdraw him from loafing and the temptation of cities, drink and sexual vices, and subject him to judicious medical treatment, you may save him from becoming insane in most cases, cure him in some, and in almost all prevent or postpone the mental decadence and resulting dementia which, under the ordinary conditions of life, epilepsy almost inevitably brings.

It is in carrying out moral treatment (using this term in its widest sense) that epileptic colonies and homes are especially useful. The carefully-selected dietary, the firm but kindly discipline, the systematic pursuit of recreation to promote physical development, all are useful, and the work imposed not only employs the mental faculties to their advantage, but expends the surplus energy which might otherwise be expelled in irritability or convulsive seizures. In cases located at home, an open-air life, with freedom from the excitements and temptations of cities, the absolute prohibition of alcohol, the moderate use of tobacco, occupation, out-of-doors if possible, but, if not, in some indoor form in which both muscle and mind find exercise and stimulus, must be insisted upon. Causes of irritation or disturbance which are eccentric should be sought for and removed. The diet should be a simple one, based on the lines which Dr. Haig has laid down for persons suffering from the uric acid diathesis. The uric acid migrane is paroxysmal, and resembles epilepsy in many points, and in many of the functional cases of epilepsy not due to any structural lesion or defect, the fits may be greatly reduced in force and frequency, sometimes to almost insignificant proportions, by a dietary carefully modelled on these lines. In children subjected to early treatment this form of dietary is specially useful, and the fits will almost always decrease in severity, and sometimes altogether cease. As the epileptic is usually a greedy feeder, the quantity of food given should be carefully regulated, and as the fits often seem due to some auto-intoxication, purgatives in some simple form should be freely used. This is a matter which is not usually sufficiently insisted on. The bromides are, of course, the great stand-by in the treatment of the malady, and they must be given as regularly and steadily as you give the food.—*Australasian Medical Gazette*, *June* 25, 1900.

25.—METHODICAL TREATMENT OF EPILEPSY.

By Prof. GILLES DE LA TOURETTE,
Paris.

[The following is a brief *résumé* of M. Gilles de la Tourette's article :]

The treatment depends entirely on the employment of bromides, and in order that regularity in their administration be obtained, the patient should be treated by a member of his family sufficiently intelligent to understand its importance. This person should keep a note book to register the attacks, vertigo, and the doses of the bromides absorbed. The treatment should not be interrupted for one day during the two years indispensable for a complete cure, unless for some very valid reason, such as a febrile affection, and even then, if slight, the dose should only be diminished, or if suspended, should be recommenced immediately convelescence sets in. In women the menstrual period was not an obstacle, nor was pregnancy. On the contrary, the bromides would have a favourable influence on the fœtus.

The formula always employed by Professor Gilles de la Tourette is as follows :

Bromide of potassium,	40 grammes.
Bromide of sodium,	12 grammes.
Bromide of ammonium,	12 grammes.
Benzoate of soda,	12 grammes.
Water,	1000.

Each tablespoonful represents 1 gramme of bromides. As tablespoons vary in size, and that the exact dose is of importance, the professor recommends the use of a graduated glass or spoon. The medicine should be given at nearly specified hours, as in certain patients the time of administration would have a certain importance. For instance, when the attacks occur at any hour, the daily ration of bromides might be given morning and evening in equal parts, two or three spoonfuls after breakfast, and the same quantity at bedtime. When, on the contrary, the attacks come on at a fixed hour, two-thirds of the daily dose should be given at one time two hours before the presumed appearance of the attack. Where the attacks always arrive at night, if the daily dose be six tablespoonfuls (six grammes), two tablespoonfuls should be given in the morning and four at bedtime. The essential in any case is to administer a sufficient dose, and that without interruption of one single day. The solution might be given in sugared water, but milk was the best vehicle.

What should be the daily dose of the bromides? That question could not be answered without taking into account the age of the patient, his special tolerance for the drug, the number and frequency of the attacks, and the state of the kidneys; if the urinary secretion is not sufficient and albumen be present, precautions should be taken, as bromide intoxication might supervene, the elimination being defective.

Children, as a rule, bear very well the administration of bromides. In a patient of six or eight years of age 2, 3, or 4 grammes might be given in the day in methodic progression. From fifteen to twenty the dose might be 8, 10, or 12 grammes. He had once given 18 grammes to a patient of 18 years of age. The question being not that of giving so many grammes of the drug, but that of arriving at the right dose capable of causing the attacks to disappear, and yet insufficient to provoke intolerance, one has to proceed cautiously and progressively. The experiment should cover three weeks. The patient takes, for instance, during the first week 3 grammes, during the second week 4, and the third week 5 grammes daily. At the end of that time he is examined, and an idea can be had of the tolerance of the individual. This examination is of the greatest importance, as many epileptic patients have been taking for months from four to five grammes of the bromide without any benefit, because the dose was insufficient, while others have experienced all the symptoms of bromidism, as the dose was too strong. In order that the dose be sufficient, the patient must feel that he is under the influence of the drug. He will say that during the week he was taking the largest dose he felt more fatigued than the preceding week, he felt less aptitude for work, manual or intellectual, he would willingly fall asleep in the daytime, the appetite was languishing, the tongue flabby and more or less coated, and he would complain of constipation. These symptoms were bordering on bromidism, an evidence that the dose of the third week might be maintained but not exceeded. However, there was one sign which Professor Gilles de la Tourette discovered himself, and that was the condition of the pupils, which indicated with absolute certainty that the right dose had been arrived at. In the course of the bromide treatment, when the dose of the drug was small as regarded the tolerance of the patient, the pupils are permanently but moderately dilated, but are still influenced by light. If the dose be increased somewhat, the pupils become more dilated and sluggish to reaction ; carried still higher, the pupils attain their maximum of dilatation and act no longer to light.

The second degree is an indication that the dose is sufficient, while the third marks intoxication which should be avoided. Consequently when the pupils are dilated and react but slowly to the influence of light, the maximum dose is obtained. As to the period of time during which the patient is to be kept under treatment at the same dose, it can vary between eighteen months and two years. If the patient had, by taking 3, 4, or 5 grammes daily, lost his attacks completely at the end of eight or twelve months, the dose might be diminished at the end of another year until complete suppression.

The principal complications of the bromide treatment are acne and extensive erythema, and sometimes a dry cough from irritation of the throat, but these troubles can be treated in the usual way. If absolute intolerance is shown by the patient to the administration of the bromide by the mouth, enemata of the same can be given with similar advantage. - *Medical Press and Circular*, *October* 10, 1900.

26.—NEURASTHENIA: SOME POINTS IN ITS PATHOLOGY AND TREATMENT.

By G. W. McCaskey, A.M., M.D.,

Professor of Clinical Medicine and Nervous Diseases, in the Fort Wayne College of Medicine.

[The following is from Dr. McCaskey's paper :]

Rest must form the essential and rational basis of any and all lines of treatment, and everything else must be subservient. It should be, in practically all cases, of a modified type, rarely absolute, but this must be determined by the individuality of every case, the object being to secure a proper combination of rest and open-air exercise, with massage in cases in which the strength does not permit of adequate exercise. Hydrotherapeutics has served me well. The precise form and vigour of the hydriatic procedure must be regulated entirely by the clinical picture presented, and by the undetermined factor of reaction, which can only be learned by experimental observation. A hot douche or spray of the entire body, from 110° to 120° F., according to the reaction on the part of the patient, followed immediately by a cold douche at from 90 degrees in delicate patients, in the beginning of a course of treatment, down to 50° or less, has given me best results. Ordinarily this procedure is to be applied every other day. There are others more or less severe, the availability of which can only be determined by a careful study of the particular case in hand with reference to the processes of nutrition and secretion, and constructive and destructive metabolism, which are thus modified in a manner and to a degree which nothing else, so far as I know, can accomplish. Electric treatment is also of great value. Static electricity, in so far as its effect on the general organism is concerned, appears to head the list. For the treatment of local neurasthenic symptoms, such as morbid cephalic sensations, rachialgia, extreme intestinal atony, neurasthenic weakness of the sexual organs, &c., faradism and galvanism properly combined or alternated have served me best.

I come now to what appears to be a matter of supreme importance, viz., the treatment of local morbid conditions of special organs. In this connection the gastro-intestinal tract unmistakably ranks first, for many and obvious reasons, and this statement will hardly be disputed by those who have found, as I have, along with Blocq and many others, that gastric symptoms are rarely absent in neurasthenia. The one difference of opinion is likely to be in reference to the proper methods applicable to the individual case. My own conclusion is that gastric disease in the neurasthenic patient requires, with slight modifications, precisely the same treatment that it does under other circumstances. If it is the judgment of the physician that such diseases are best diagnosed and treated by empirical instead of exact methods, relying on drugs and regulation of diet, then that is the best thing here; but if he believes that it is incumbent on him to positively know, instead of vaguely guess at, the pathology of any given case, then here as elsewhere he will, in the majority of cases, proceed first to make a full diagnosis according to the most approved methods. The logical sequence of such a diagnosis can only be the formulation and adoption of such a method of treatment as appears best adapted to meet the conditions thus determined. In most cases there will be found defective digestive secretion, atony, excessive mucous secretion, and, in many, or perhaps most cases, a local expression of that irritable weakness which forms so salient and conspicuous a feature of the general clinical picture. Proper regulation of dirt, thorough mastication of food, ample supply of fluid for the purposes of tissue metabolism, preferably taken an hour or more before meals, together with a general line of treatment suitable to the neurasthenia, will frequently be all that is necessary to dispose of the stomach symptoms in the milder grades of cases. The exhibition of bromides in neurasthenic dyspepsia, while lauded by many authorities, has for the most part proved disappointing in my hands ; and as a general proposition it is true that in the gastric disease of neurasthenia, as in other cases of gastric disease, drug treatment is for the most part futile and frequently sinister in its effects.

I will refer to only one other question in the treatment of the digestive organs, viz , the management of the colon. As the result of the gastro-intestinal indigestion and atony, we have a local infection of the colon, with accumulations of mucus, epithelium, food débris, &c., which act on the nervous system by reflex irritation, and furnish indefinite quantities of bacterial toxins for absorption. These add to the auto-intoxication, and render more arduous the struggle of the organism in the processes of elimination. Inasmuch as it is a very simple matter to clear this material out of the colon by suitable local treatment, this should be done in all cases in which a proper examination shows that it is indicated. The patients can not do this satisfactorily ; either the physician or a trained assistant should personally attend to it, and see that these accumulations are removed. More than this, by using extremes of temperature for the irritating fluid, atony of the intestinal wall can be directly counteracted ; and, in fact, the entire nervovascular mechanism of the splanchnic area stimulated and modified in a favourable manner, which has an important bearing on all the principal functions of the abdominal and thoracic viscera.

I do not wish to be understood as advocating the use of the stomach-tube in every case of neurasthenia, although, as my experience widens, the tendency is to use it in a larger and still larger number of cases. I have no doubt that many patients with mild, and some with severe, stomach symptoms, will do very well without it, but an honest study of somewhat extensive clinical data, has forced me to a more aggressive line of treatment in this direction ; and in many cases in which I thought it would be ill borne or not tolerated at all, everything has gone smoothly, and the most signal benefit has accrued.—*Journal of the American Medical Association, June* 6, 1900.

27.—ACUTE GRAVES' DISEASE.

By JAMES R. ARNEILL, M.D.,

Instructor in Clinical Medicine, University of Michigan, Ann Arbour, Mich.

[Dr. Arneill describes in detail a case occurring in a woman aged 33 years. The following is taken from his remarks:]

The most salient points in the case are the cessation of menstruation one year before death, the appearance of the goitre seven months before death, the advent three months later of palpitation of the heart, tachycardia and nervousness, immediately after a profound emotional shock, the presence of diarrhœa and vomiting, the great loss of weight—nearly seventy pounds in four months—the high pulse-rate and the high temperature toward the close of the illness, the presence of delirium and the complete absence of any evidences of exophthalmos. From an etiologic standpoint the question of shock is an important one. A large number of cases have been reported in which the signs of exophthalmic goitre developed immediately after some profound emotional disturbance.

Trousseau relates a case in which three cardinal symptoms of the disease appeared in a single night in a woman who had been greatly affected by the loss of her father. Kinnicutt, in the "American System of Practical Medicine," speaks of the following case in his practice: A woman, at the sight of her husband covered with blood, was seized suddenly with violent palpitation and tremor, followed speedily by enlargement of the thyroid and protrusion of the eyes. Reymond reports a case in which acute symptoms suddenly appeared following anxiety in a woman of 45, death occurring on the fourteenth day. Sansom ("Allbutt's System," vol. ii) reports a case developing suddenly after fright, but ending in recovery. Moore—cited by Ord and McKenzie in Vol. iv of "Allbutt's System"—reports a case occurring in a young girl after reading of her brother's death, in which the symptoms lasted only two days. Some of the signs and symptoms of this disease have also developed following operations: severe attacks of pain, the administration of an overdose of thyroid extract and the section of the cervical sympathetic. In Mueller's series, one case, five years before the beginning of the disease, had a sudden blow upon the nape of the neck. In the third case, gall-stone colic preceded the attack many years. In another case, there was a long attack of fever of an unknown kind, following which the patient never entirely recovered. Patterson reports a case in a girl of 15; tonsillotomy was performed. A good deal of agitation and tremor of the hands were noted at the time of the operation. In the course of three weeks, enlargement of the thyroid, tachycardia and exophthalmos developed. The tremor also extended to the legs.

If the histories of many of the reported cases of this disease had been worked out carefully, it is my belief that in the majority of them, signs, though indistinct, of a pre-existing incomplete Graves' disease could have been obtained. The fright, grief or worry is simply an accidental factor in the disease, which has accentuated the signs already present and hastened the development of others. In my own case menstruation had ceased five months before the goitre was noticed, and eight months before the severe shock. Articular rheumatism, involving most of the joints, preceded the development of nervousness and tachycardia by a year. In Reymond's case there was a continuous tremor for more than a year preceding the acute attack. In Patterson's, the patient had been troubled with tremor of the hands for eighteen months, which had occasionally made writing difficult. Kinnicutt reports a similar case, in which, before there was any evidence of palpitation, a trembling of the hands had interfered seriously with his occupation of book-keeping. Enlargement of the thyroid occurred six weeks later. In these cases the tremor was an evidence of the existing Graves' disease. Hirschlaff's case had palpitation of the heart and dyspnœa at time of menstruation for nine years previous to the acute development of the disease. In 1895, after a fright, convulsions and unconsciousness supervened ; similar attacks occurred every month, preceded by paræsthesia of hands and feet. Excitement and anger brought on the attacks.

In the majority of acute fatal cases of this disease there is a history of uncontrollable vomiting and diarrhœa, which soon exhausts the patient. In Sutcliff's case this feature was very prominent. Vomiting persisted in spite of all treatment till death. For three weeks no food was taken, even the sight of food bringing on distressing vomiting. J. H. Lloyd's patient was thought to be suffering with cholera morbus. When examined in a good light the cardinal signs of Graves' disease were found. Vomiting continued, prostration became marked, pulse rose to 170, and was tumultuous ; patient died at end of third day of illness. Hirschlaff's case, toward the end had diarrhœa. In Mueller's four cases symptoms on the part of the abdomen ushered in the scene in three cases ; there was gastralgia, vomiting and diarrhœa, the diarrhœa being especially persistent in the first case. In three of his cases, the voice acquired a nasal twang, becoming toneless and soft. Several showed bulbar symptoms in a slurring of the speech.

Psychical condition.—All four of Mueller's cases showed great restlessness, irritability and excitability. The great motor restlessness continued until death. The first three cases had delirium at the periods of exacerbation. Case 4 had feelings of anxiety, associated with frightful dreams and hallucinations. My case showed wild delirium toward the close. Henry's case was markedly delirious. Hirschlaff's case showed great restlessness, amounting almost to choreic movements. A number of hysteric attacks occurred following trifling annoyances. Very rapid tremor was present in all four of Mueller's cases. It was also marked in Hirschlaff's case and my own. Patterson's, Reymond's and Kinnicutt's cases all showed fine tremors. Charcot first called attention to the tremor as a symptom in Graves' disease. Marie thinks it presents characteristics which distinguish it from all other forms of tremor. The to-and-fro movements of Graves' disease occur at a rate of 8 to 9½ per second, whereas the tremors of paralysis agitans, general paresis, alcoholism and general senility are much slower, about 4 to 5 per second, and more regular. The importance of the presence of tremor should be emphasized because of the assistance it gives us in diagnosing incomplete and incipient forms of Graves' disease.

Treatment is of no avail. Digitalis, strychnia, bromides, morphia and thyroid extract have all been used, and with indifferent results. The use of thyroid extract in Graves' disease, acute and chronic, is condemned by many as irrational. However, upon the ground that this disease is the result of an absorption of an excessive amount of perverted thyroid secretion, it is good treatment to give these patients thyroid extract. By supplying artificially a normal secretion, it is possible for a diseased organ to recuperate and regain its normal function. In diseases of the stomach with subacidity we prescribe hydrochloric acid, and in many cases, the stomach regains its power to secrete a normal gastric juice. In the treatment of the disease we must guard against drawing too favourable conclusions regarding the efficacy of therapeutics. The disease is prone to improve without or in spite of treatment. On the other hand, exacerbations may occur during treatment, and one is led to think that the medication is responsible for the relapse, when it is without blame. It cannot be foretold whether thyroid extract will do a patient good or harm, but many patients with the chronic type of the disease have improved under its use, and it seems a justifiable clinical experiment to try this drug in the treatment of Graves' disease.—*Journal of the American Medical Association October* 6, 1900.

28.—TREATMENT OF SYPHILIS OF THE BRAIN.

By J. T. Eskridge, M.D.,
Denver, Col.; Alienist and Neurologist to St. Luke's Hospital, &c.

[Dr. Eskridge thus concludes his article on cerebral syphilis.]

When shall we give mercury or potassium iodide, and when shall we administer both for the relief of intracranial syphilis? I do not believe that the time that has elapsed since the initial lesion was contracted is any guide. My experience has been that the activity of the syphilitic process is the most, yea, so far as I know, the only guide to the choice of mercury or potassium iodide. The greater the activity of the poison, the more acute and violent the symptoms, the greater the demand for mercury. On the other hand, potassium iodide apparently does more good in the chronic specific processes than does mercury. I do not wish you to infer that mercury does no good in chronic syphilitic lesions and that potassium is useless in the active and acutely irritative ones. On the contrary, I believe that each may be indicated in almost any stage of intracranial syphilis; but when it is a question under which drug's influence we must first seek to bring our patient, then the acuity or chronicity of the syphilitic inflammation should guide us.

I shall not discuss the details of treatment; each has his favourite prescription and methods of administration. We should, however, when we have syphilitic inflammation or deposits to be got rid of, push specific medication to the point of tolerance. The results of treatment, and not the dose of potassium iodide or mercury, should be our guide. In a few cases of active specific lesions of the brain I have given with great benefit half a grain of bichloride of mercury thrice daily. In one instance it required 1,060 grains of potassium iodide daily to accomplish the desired result, but these are rare and exceptional cases.

It seems to me desirable to direct your attention to the intracranial lesions of syphilis and their effects on adjacent structures. We found that gummata were specific in character, and when attacked early, yielded readily to anti-syphilitic treatment; that they soon began to degenerate, each gumma showing spots of degeneration of a caseous or fibroid nature; that the final results of the degeneration of gummata were not specific in character and showed no tendency to yield to anti-syphilitic treatment; that the cicatricial tissue left by the degeneration, although the gummatous material was all absorbed, formed scars in the brain, on its cortical surface, or bands at the base, in the latter situation often giving rise to destruction of the cranial nerves, causing blindness, ocular paralysis, and various cranial-nerve symptoms, all of which are not relieved by specific medication. We found that specific meningitis yielded to treatment, yet a thickened condition of the membranes remained, giving rise to basilar or convex cortical symptoms, in the one instance as evidenced by cranial-nerve disturbance ; in the other, by motor and mental manifestations of a perverted character ; that the meningo-encephalitis was sometimes developed, although due to syphilis, yet the destructive lesions were not specific in character. Again, we found a specific inflammation in the walls of the blood-vessels caused narrowing of the arteries, but that their final occlusion was the result of blood clot, non-specific in character, and that the softened brain area was non-specific, although indirectly due to specificity. Finally, the chronic degenerations are non-specific in their character and do not yield to anti-syphilitic medication.

What lessons should we learn from a study of the intracranial lesions of syphilis and their results? First, that for a certain time, anti-syphilitic agents may be given to the point of toleration for the removal of gummata ; secondly, that there are numerous non-specific intracranial lesions resulting from specific causes, which fail to yield to specific medication.

How pitiable it is to see a hemiplegiac or a dement whose helplessness has been caused by thrombotic occlusion of a vessel, indirectly due to syphilis, treated at this place or that by courses of mercury, or, equally as bad, by large doses of potassium iodide, for many months or even a year at a time! When will the profession learn to treat syphilis of the brain according to the lesion from which the patient is suffering? Should we not learn to have some regard for our patient, notwithstanding that he is so unfortunate as to be the victim of syphilis?—*New York Medical Journal*, *July* 21, 1900.

29.—INTRACRANIAL TUMOURS.

By Byrom Bramwell, M.D., F.R.C.P. Ed., &c.

[Dr. Bramwell relates a very interesting case in a man aged 54 years. The causes of Jacksonian epilepsy are then discussed. Groups of cases of intracranial tumours are next described.]

Intracranial tumours may give rise to an immense variety of different symptoms, which is one of the reasons why the subject is of so much interest. From the point of view of their symptomatology they may be grouped into four great classes. There is, in the first place, a very small group in which a tumour has been present for years without producing any symptoms at all. This is illustrated in the following case of abscess of the brain. The patient was a strong, healthy man, who was suddenly seized with an epileptic fit, became paralysed and aphasic, and died in ten days from an evidently rapidly advancing cerebral lesion. Tumour was one of the things thought of, abscess was another, cerebral thrombosis with softening was a third. Abscess was rejected because there was no apparent cause for abscess; tumour was rejected because the patient had been absolutely well until the commencement of the symptoms, he had never previously had any head symptoms whatever, and had not suffered from syphilis. It was thought that the case was one of cerebral thrombosis with softening, and for that reason it was decided not to operate. On post mortem examination a very large abscess, full of stinking pus, was found in the central ovale on the left side, and in addition there was a firm old tumour about the size of a walnut which must have been present for many years without producing any symptoms. It is an extremely rare condition, and such a tumour is, of course, not diagnosable. In a second group of cases of intracranial tumour there are well-marked symptoms of a general kind—headache, vomiting, giddiness, and double optic neuritis, sometimes generalised epileptic fits, but no localising symptoms. In this group a very large number of cases are included; the cases in which there are merely general symptoms without sufficient localising symptoms to locate the tumour from a very considerable proportion of the whole. A third group of cases, which is also very large, is one in which in addition to well-marked general symptoms there are well-marked localising symptoms, such as localised paralysis or localising spasm or hæmatopsia or other well-defined localising system which enables it to be said that there is a tumour, but not, with exactitude, where that tumour is situated. A fourth group, which is larger than the first, but much smaller than the other two, is one in which there are no general symptoms, but only localising symptoms. There is no headache, no vomiting, no giddiness, no optic neuritis, but some well-marked localising symptom such as Jacksonian epilepsy is present.

In the case under consideration there was practically no headache, there was no vomiting, and no optic neuritis. There were, however, well-marked localising symptoms which enabled the tumour to be located. By the method of exclusion the conclusion was arrived at that the discharging lesion which was situated in the upper part of the motor area for the left upper arm was in all probability a tumour. The pathological diagnosis had also to be made by the method of exclusion, the conclusion being that the tumour was a glioma—probably of small size—affecting the upper part of the motor area for the arm on the right side of the brain.

[Dr. Bramwell then describes the prognosis and treatment :]

The prognosis in such a case, unless the tumour can be cut out, is of course extremely bad. After treatment for a week on full doses of iodide of potassium, together with bromide of potassium and chloral hydrate, with the object of relieving the spasms, Mr. Cotterrill performed an operation. A large flap of bone was reflected with the scalp adherent to it. A large portion of the motor area of the brain was thus exposed ; the bone and dura were found to be quite natural. No alteration in the consistency of the brain could be detected, and there was nothing which could be definitely identified as a tumour. The exposed area of brain was stimulated with the faradic current, but no response (spasm) resulted. A fine trocar was then inserted into the brain tissue in various directions, nothing but clear cerebro-spinal fluid was withdrawn; the trocar had evidently penetrated into the ventricles. It was, therefore, decided to do nothing more, the flap of bone was replaced after the dura had been very carefully sewn together with silk stitches, the scalp wound was sewn up with horse hair. In the course of a fortnight the patient was absolutely well, so far as the effects of the operation were concerned. With regard to the effect of the operation on the fits, almost immediately after the operation he had a return of his spasms, and from this time he continued to have the fits just as he had done before. He was again put upon iodide and bromide of potassium and chloral hydrate, but no improvement resulted. About a month or six weeks later he returned home, and a few days after that had a general epileptic fit and died in it.

The brain was given to Professor Muir at Glasgow, and his report showed that the middle part of the ascending frontal convolution, which had been fully exposed at the operation, was swollen, and that just below the fissure of Rolando, one inch and a half from the surface, between the ascending parietal convolution and the ascending frontal there was a well-marked gliomatous tumour, which had obviously made its way to the surface, and partly infiltrated the superficial parts. Whether the infiltration of the superficial cortex was present at the time of the operation or not is impossible to say, but the oldest part of the tumour was one inch and a half from the surface under the fissure of Rolando, which is probably the reason why the presence of the tumour was not detected at the operation, because there is no doubt that that part of the brain immediately superficial to the tumour was thoroughly exposed. The tumour consisted of spindle-cells, and should be classed rather as a sarcoma than a glioma. It is a very good illustration of a case of cerebral tumour in which there are few, if any, general symptoms, but in which there are well-marked localising symptoms. Another point of interest is the very long continuance of the Jacksonian epilepsy, and yet another point of great practical importance is the difficulty of recognising at an operation whether the brain tissue is gliomatous or not. This is not to be wondered at when it is remembered that it is often difficult to determine post mortem. One very important method of distinguishing such a gliomatous infiltration is probably the application of the faradic current, and it is exceedingly difficult to say why in this particular case no spasms were produced unless the portion of the brain which was faradised was infiltrated with gliomatous tissue and unable to be irritated.—*Medical Press and Circular*, *October* 31, 1900.

30.—EPIDEMIC CEREBRO-SPINAL MENINGITIS.

By H. C. Drury, M.D., F.R.C.P. I.,
Assistant Physician to Sir Patrick Dun's Hospital, &c.;
and
By A. R. Parsons, M.D., F.R.C.P. I.,
Physician to the Royal City of Dublin Hospital, &c.

[Both authors describe the cases occurring in a recent epidemic in Dublin. Only a part of these two papers are included here. A valuable pathological report by Dr. H. E. Littledale has had to be omitted.]

[From Dr. Drury's paper :]

Certain diagnosis before or after death may be made by an examination of the fluid present in the spinal canal, as obtained by the method of "lumbar puncture," without any ill effect to the patient before death, and without the necessity of an ordinary post-mortem examination after death. This lumbar puncture is performed by introducing a carefully-sterilised aspirator needle between the spines of the second and third, or third and fourth lumbar vertebræ in the middle line. The body should be bent forward in order to obtain more room, and this is the only difficulty met with before death, as there is usually, if not actual opisthotonos, at least rigidity of the spinal muscles which may make it impossible to get the body curved forward. The operation is little more painful than an ordinary hypodermic puncture, and a period of insensibility during the course of the disease may be utilised for the purpose ; if not, and the patient appears partly conscious, slight freezing of the skin will allow of the puncture being made without the patient feeling it at all. In the fluid obtained will be found the "diplococcus intracellularis" if the case be one of epidemic cerebro-spinal meningitis.

The symptoms of the disease are, briefly, those of meningitis with some special peculiarities, some of which are usually present. Of these early retraction of the head is important and very constantly seen ; the spasm may extend to the back muscles, causing opisthotonos. These conditions are produced by irritation of the spinal nerves as they pass through the membranes. To the same cause is due the pain complained of, especially in the limbs, and the hyperæsthesia of the whole surface of the body.

Herpes labialis is also very frequently present, and often very extensive ; it is more constant than any other skin affection, and may appear not only on the lips and nose, but on other parts of the body. Leichtenstern found it in twenty-six out of twenty-nine cases. An eruption of petechial spots is so constant in some epidemics, that the early American name for the disease was "Spotted Fever," and with us "Malignant Purpuric Fever." This rash may appear early and be very copious, but bears little relation to the severity of the disease ; it may, moreover, be entirely absent, and is really an unimportant feature. One observer found it in only four out of eighty cases. Vieusseaux does not mention skin lesions at all, so we may infer they were not present in his cases. Very few have been met with in the present epidemic. Inflammation of the conjunctivæ of the iris, or of the whole uveal tract leading to destruction of the affected eye is not unfrequently seen ; usually only one eye, and that the right, is attacked (Grimshaw). Deafness is also frequent, with or without purulent discharge from the ear. Recovery from this may occur wholly, in part, or not at all. Not unfrequently there is swelling and redness of some of the joints like that of acute rheumatism. This may be due to a serous effusion which may quite disappear, or to a purulent effusion which may disorganise the joint. It is not uncommon to meet with either broncho- or lobar pneumonia at the commencement of, during the course of, or late in the disease. Cases of this sort having been verified by post-mortem examination, or by lumbar puncture, and subsequent microscopic examination, it is certain that they were not merely cases of ordinary pneumonia with accidental meningitis, but that the meningitis was the essential feature, and pneumonia the accidental complication.

[The author then gives details of eight cases, one of which recovered.]

[Dr. Parsons gives details of seven cases, four of which recovered. He then briefly refers to the following points :]

Etiology.—Numerous outbreaks have occurred on the Continent and America, while England has escaped to a remarkable extent. The outbreaks have generally appeared as waves passing over a district, and not returning for years.

Age.—The incidence is chiefly on children and young adults. It rarely occurs after 35.

Season.—It is most common in spring. It has been thought to follow in the wake of cholera and measles, and to be closely connected with pneumonia.

Bacteriology.—Evidence is steadily accumulating that its immediate exciting cause is the Diplococcus meningitidis intracellularis. It has been suggested that this organism may be found in the nasal secretion, and that by this route it probably reaches the brain. I have examined the secretion in two cases ; in one there were numerous diplococci, in the other they were very few. I do not think they were the diplococcus intracellularis.

Diagnosis.—The onset is sudden and definite. The patient can fix to the hour the time that he was seized with the headache.

Temperature.—There is no constant type. In some cases it resembles typhoid, in others malaria.

Decubitus.—The patient generally lies on his side with his head retracted, chin pointed, and lower extremities flexed on the abdomen.

Kernig's sign has been present in all the above cases in which I have looked for it. I have tried patients with various other diseases, but never elicited it. I have noticed it as early as the third day, and it has been present even after convalescence has set in, diminishing as the patient got well. I have not been able to elicit a corresponding spasm in the upper extremity, though I looked for it in some of the cases.

Knee-jerk has been diminished or absent ; never exaggerated.

Eruptions.—Four of the seven had well-marked naso-labial herpes. In two of the remaining three death occurred almost too soon to allow of the eruption to appear, and one I did not see till towards the end of the illness. None of the cases had herpetic eruptions in other parts, and none had the purpuric eruptions so common in the 1866-67 epidemic.

Eye.—Most of my cases had strabismus and double vision, always due to the external rectus being involved. In the four who have recovered, full control of the rectus has been regained. I have seen none of the purulent infiltration of the cornea, or of the ophthalmia which so seriously affected sight in 1867. When the fundus was examined there was always some involvement.

Urine.—Albumen was present in two cases, and in one there was complete absence of chlorides for a short time—a point of some interest on account of the connection supposed to exist with pneumonia.

Lumbar puncture.—Professor Osler speaks very highly of this as a diagnostic agent.

Prognosis.—This depends very much on the epidemic ; three of the seven cases died, and one is still in hospital. Dr. Grimshaw considered that children have a better chance than adults ; at least many of the children admitted to Cork Street Fever Hospital under his care in the epidemic of 1866-67 recovered, while 80 per cent. of the young constabulary recruits sent to Steevens's Hospital, and also under his care, died.

Treatment.—I have applied ice to the head and evaporating lotions. Trional, bromides, and morphine have been used to relieve restlessness and procure sleep. Calomel has not been administered except as a purgative. The patients, when suffering pain in the trunk of extremities, have often expressed themselves as greatly relieved when rubbed with a chloroform and camphor liniment. If symptoms suggested a cardio-respiratory failure from pressure, I would resort to lumbar puncture with a view to diminishing the pressure by the removal of cerebro-spinal fluid.—*Dublin Journal of Medical Science, July*, 1900.

31.—THE SPORADIC FORM OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

By J. MICHELL CLARKE, M.A., M.D. Cantab., F.R.C.P.Lond.,
Professor of Pathology, University College, Bristol ; Physician to the Bristol General Hospital.

[These sporadic cases of cerebro-spinal meningitis are interesting. One of us recorded several examples of it in *Brain*, 1890, and recently a case, which recovered, has come under the observation of one of us.—E.F.T.]

The following two cases of cerebro-spinal fever are the only ones that have occurred at the Bristol General Hospital within the last twelve years, and probably for a much longer period, but of that I have no certain knowledge. It is certainly worthy of remark that both cases were admitted within four weeks. I also learnt that the sister of the first patient was at home ill with high fever and delirium ; but as I failed to ascertain the exact nature and result of her illness, I cannot say whether she also suffered from the same disease. According to Jaeger

(*Deutsche med. Wchnschr.*, 1899, xxv.) there is now an epidemic period of the disease in Europe and America. Cerebro-spinal fever is fortunately rare in the epidemic form in this country, the last minor outbreak having taken place in the Eastern Counties in 1890. Sporadic cases, however, occur from time to time. In the United States, where epidemics have been of frequent occurrence and sometimes of great severity, sporadic cases constantly occur in the intermediate years. An interesting point is the relation of the sporadic cases to the epidemic form. In the recent severe epidemic in Boston, U.S.A., 1896-7, the mortality was 68·5 per cent., and in thirty-nine sporadic cases occurring between 1880 and 1896 it was 59 per cent. The symptoms of the disease and the pathological changes are the same in both. The epidemic form of the disease is now generally admitted to be due to the diplococcus intracellularis meningitidis (Weichselbaum) ; Netter, however, maintains that it may be caused either by this organism or by the pneumococcus. With regard to the sporadic cases, the question seems to be not finally settled, but many observers have also found in these the D. intracellularis meningitidis.

Dr. D. S. Davies kindly undertook the examination of the exudate in the two cases under observation. He found in each one a diplococcus corresponding in morphological characters to the D. intracellularis meningitidis, and in the second the pneumococcus was also present. This last is not an infrequent association. Netter found these organisms present together in ten out of thirty-nine cases. I regret that my case was not examined for the presence or absence of Kernig's symptom ; but before reading Prof. Osler's Cavendish Lecture in July, 1899, I was not acquainted with this symptom.

[The full details of the two cases occurring in patients aged respectively 10 and 19 years, are omitted here.]

Pathologically the presence of the diplococcus intracellularis meningitidis in these sporadic cases of the disease is the most interesting feature : in a recent paper, Dr. W. J. Buchanan says that it was found in three cases in the Bhagalpur Jail, India. From the clinical point of view, a marked feature in both cases was the extreme and constant restlessness. I did not see the second case during life, but the sudden onset and rapid course would class it under the fulminating variety of the disease : we had to depend, of course, upon the statements of his friends for the history, but, in any case, it may safely be concluded that there were no symptoms of serious illness until the fit which ushered in the rapidly-fatal attack. The petechial rash on the lower limbs and the labial herpes correspond to two of the skin eruptions most frequently seen in cerebro-spinal fever. In the first patient the sudden onset with high fever, acute delirium, pains in the back and limbs, herpes labialis, slight retraction of head, tenderness over head and spine, photophobia, partial right ptosis, and right external strabismus in the absence of pneumonia and of middle-ear disease, practically the two most frequent causes of a secondary meningitis, made the diagnosis of a sporadic case of cerebro-spinal fever sufficiently clear. For this reason, and also because of the extreme restlessness of the patient, a lumbar puncture was not attempted.—*Bristol Medico-Chirurgical Journal*, *June*, 1900.

32.—SPINAL SYPHILIS.

By R. T. WILLIAMSON, M.D. Lond., F.R.C.P.,
Physician to the Ancoats Hospital, &c.

[Space will not permit of the whole of Dr. Williamson's valuable paper being reproduced here.]

Acquired syphilis produces various forms of spinal disease, according to the distribution and nature of the pathological lesions. These forms of spinal syphilis often closely resemble affections of a non-specific nature, but their recognition is of much practical importance, especially with reference to treatment.

(1) *Symptoms of compression of the spinal cord or nerve roots may be produced by syphilitic disease of the vertebræ, syphilitic caries, necrosis, gumma, exostosis, periostitis, or osteitis.*—This is an exceedingly rare form of spinal syphilis, and may at first be mistaken for tuberculous caries or tumour of the vertebræ.

(2) In another very rare form there are symptoms of *chronic meningitis*, without indications of involvement of the spinal cord.

(3) *Meningomyelitis is the most common form of spinal syphilis.*—There are meningeal symptoms first (pain in the back, and indications of implication of spinal nerve roots), followed in course of time by symptoms of involvement of the spinal cord. The cord symptoms consist of paraparesis or paraplegia, usually with increase of the deep reflexes, and rigidity, and frequently with bladder symptoms and sensory disturbances. There may be partial or complete anæsthesia to all forms of sensation; but often some forms are affected and others spared; sometimes *loss of sensation to temperature (especially to cold)* is the chief or only sensory disturbance. The pathological changes are usually most marked in the dorsal region of the cord. Secondary ascending and descending degeneration follows the spinal softening.

(4) *Acute syphilitic paraplegia (acute syphilitic myelitis).*—Sometimes the symptoms of spinal syphilis resemble those of acute tranverse myelitis, or even spinal hemorrhage. There is a sudden onset of paralysis of both legs, with paralysis of bladder and rectum. The intercostals may also be paralysed; occasionally, but rarely, the paralysis extends to the arms. There may be loss of all forms of sensation, or analgesia and thermo-anæsthesia only; or thermo-anæsthesia, whilst other forms of sensation are normal. Frequently the sensory disturbances are slight, whilst the motor are very well marked. The knee-jerks may be present or absent. In the cases which have come under my own observation, ankle-clonus has usually been absent. Prodromal symptoms, such as pains in the back or limbs, girdle sensations, &c., are often present for a short time. Prodromal symptoms are noticed for a longer period before the onset of paralysis in syphilitic cases than they are (when present) in non-specific myelitis. Retention of urine may occur for some days before the development of paraplegia. Though suggestive, this point is not quite diagnostic. Often cases of acute syphilitic paraplegia occur at a comparatively early date after the syphilitic infection. I have seen one case seven months and another case twelve months after infection. The records of pathological examination in these acute cases are not numerous.

(5) *Erb's syphilitic spinal paralysis.*—In 1892, Erb drew attention to a class of cases of chronic spinal syphilis, presenting a certain group of symptoms; and he believes that these cases form a common and distinct clinical variety of spinal syphilis. The patients present the familiar symptoms of spastic paresis or paralysis as regards gait, attitude, and movements. The patella tendon reflexes are increased, and ankle-clonus is present, but there is relatively only slight muscular rigidity. The bladder is constantly affected. As a rule, there is only slight, though constant, affection of sensation. The onset of the disease is gradual, seldom rapid. Marked paresis gradually develops, but only exceptionally is there complete paraplegia. The upper half of the body is unaffected. There has been considerable discussion as to whether "Erb's spinal syphilitic paralysis" should be regarded as a special disease of the spinal cord or not; but cases corresponding to his description form a clinical group, to which the name just given may be conveniently applied. The pathological anatomy of this group has not yet been definitely decided, owing to the few autopsies which have been recorded.

(6) *Paraplegia with combined degeneration in the posterior and lateral columns.*

(7) *Gumma of the spinal cord, or meninges.*—In rare cases of spinal syphilis the symptoms have been those of a localised

meningeal or intramedullary spinal tumour, and a gumma has been diagnosed. In a comparatively few cases only, the diagnosis has been verified pathologically, and a gumma has been found, post-mortem, in the meninges, or more rarely within the cord. Often there have been other syphilitic changes in the cord also.

(8) *Anomalous forms.*—In addition to the clinical forms already mentioned, there are a number of other rare varieties, in which the symptoms often resemble those produced by non-specific cord lesions. In all these anomalous forms, the diagnosis is usually made readily, if the patient be carefully examined. Some symptoms are present in the specific cases which are always absent in the non-specific diseases, or some of the most characteristic symptoms of the non-specific disease are wanting.

(9) Finally, there is the question of the syphilitic origin of true locomotor ataxia, about which there is still some difference of opinion.

In thirty-two cases of spinal syphillis which have come under my observation, the forms of disease were as follows:—Syphilitic disease of the vertebræ: Chronic syphilitic meningitis, three cases; meningomyelitis, sixteen cases; acute paraplegia (acute syphilitic myelitis), six cases; chronic syphilitic spinal paralysis (Erb's form), four cases; gumma of the cord (verified), one case; triplegia, one case; pseudo-tabes, one case. Spinal syphilis (excluding tabes) is a somewhat rare affection. Males are much more frequently affected than females. In the cases to which I have referred, there were twenty-six males and five females. The age of the patient is most frequently between 20 and 40. The spinal affection may occur a short time after syphilitic infection (seven months), or not for many years (ten or fifteen). In seventeen out of twenty-seven cases, I found that the disease had occurred within the first five years after infection; in two cases, within the first twelve months. From my own pathological observation, I am inclined to attach the greatest importance to syphilitic vascular changes in the pathology of spinal syphilis.

Diagnosis.—The diagnosis of spinal syphilis is of great importance, especially at the early stage, when good results may be expected from prompt treatment. The diagnosis of each variety of spinal syphilis will require separate consideration, with reference to the non-specific affections it most closely simulates. The following general indications are, however, in favour of syphilitic nature of spinal disease:—(1) The history of previous syphilitic infection. (2) Signs of present or previous syphilitic disease in various parts of the body. (3) The presence of cerebral symptoms (due to associated syphilitic cerebral disease). (4) The relatively slight intensity of the cord disease as compared with the extensive area involved (Sachs). (5) The presence of Brown-Séquard's paralysis—hemiparaplegia—at some period of the illness. Often this group of symptoms is incomplete and temporary. (6) Fluctuations in the intensity of nervous symptoms. (7) Multiplicity of lesions. Several French authors attach much importance to pain in the back which is worse at night. This symptom I have observed in a number of cases. Finally, the improvement under anti-syphilitic treatment may, in certain cases, be regarded as evidence in favour of the syphilitic nature of the disease.

The prognosis in spinal syphilis is, on the whole, better than in other affections of the spinal cord. But it differs according to the form of the disease. Complete or partial recovery occurs in some cases, but others terminate fatally. The prognosis is better when the meninges are chiefly affected, but the more the cord substance is involved, the less are the prospects of recovery. The prognosis is worst in the cases of acute paraplegia ("acute syphilitic myelitis"), especially when the bladder and rectum are paralysed. Some of these cases rapidly terminate fatally. In the thirty-two cases already referred to, death occurred in nine, recovery in ten ; the other cases passed from observation without any great change in their condition. The nature of the nine fatal cases was as follows :—Acute paraplegia ("acute myelitis"), five cases ; Erb's chronic syphilitic paralysis, one case ; gumma of the cord, one case ; triplegia, one case ; meningomyelitis, one case. The nature of the ten cases which recovered was as follows :—Five of meningomyelitis, three of meningitis, one of acute paraplegia, one of pseudo-tabes.

The treatment of spinal syphilis is of the greatest importance, especially at the early stage, or when only symptoms of affection of the meninges of the cord are present. A thorough anti-syphilitic treatment should be prescribed, and there is good evidence that mercury and iodide of potassium are of service. A common plan is to prescribe mercurial inunctions with potassium iodide internally, and this seems the better course at first. But Tschiriew has recently shown that, when the two drugs are used at the same time, the mercury is more rapidly eliminated from the system, and in his opinion it will therefore act less powerfully in neutralising the syphilitic poison. Hence, after the two drugs have been employed together for a time, it is best to use them alternately -mercurial inunction being employed alone, and then discontinued, and iodide given alone. If the iodide of potassium is badly borne, it may be given in milk after meals. Hutchinson thinks it is very important to always combine the iodide with ammonia. As regards the form of mercury, there can be little doubt that inunctions or mercurial pills are to be preferred to the injection of mercury. Hutchinson prefers hydrargyrum cum cretâ in pills, with a little opium three times a day. The attention to the condition of the bladder and the prevention of bed-sores are two points of the greatest importance, just as in cases of non-syphilitic myelitis. For the prevention of bed-sores the use of a water-bed is of great service. If there be retention of urine, the catheter should be used, but the most strict precautions should be taken to keep it perfectly aseptic. If cystitis should appear, the bladder should be washed out with some antiseptic lotion (containing boracic acid or sodium salicylate), and urotropin may be given internally. —*Edinburgh Medical Journal*, *October*, 1900.

33.—ACUTE HEMORRHAGIC TRANSVERSE MYELITIS AS A COMPLICATION OF TYPHOID FEVER.

[The following is a leading article in the *Journal of the American Medical Association*, June 30, 1900 :]

The nervous complications of typhoid fever constitute a noteworthy characteristic of that disease. Headache, delirium, coma, hyperæsthesia and hyperalgesia are not uncommon manifestations at the height of the fever, while motor paralysis and paresis, irritative motor phenomena, anæsthesia, hyperæsthesia, neuralgia and vasomotor and trophic disorders are not rarely complications. Generally these disturbances are of peripheral origin, and only a few cases are on record in which they have been found to be of central origin. A particularly interesting case of the latter variety, in which acute and rapidly fatal hemorrhagic transverse myelitis developed in the course of an attack of typhoid fever, has been reported by Schiff (*Deutsches Archiv. f. Klin. Med.*, B. lxvii.) The patient was a waiter, 19 years old, and on the ninth day of the disease loss of control of the sphincters of the bladder and the bowels developed. The sensorium was clear, and there was no pain. On examination, absolute motor paralysis of the lower extremities of flaccid type was found, with abolition of the reflexes, and almost complete flaccid paralysis of the upper extremities. There was, besides, absolute anæsthesia for all varieties of sensation in all four extremities, and on the trunk to the level of the third costal cartilage, in front, and the spinous process of the second dorsal vertebra behind. The respirations were 36 in the minute, and there was marked subjective and objective dyspnœa. With each inspiration, the thorax, instead of being elevated and distended, was depressed and retracted ; while the abdomen, at the same time, instead of being retracted, became greatly bulged forward. These latter phenomena were attributed to paralysis of all of the thoracic respiratory muscles except the diaphragm, and also of the abdominal muscles.

From the symptoms, it was concluded that the lesion was a transverse myelitis, situated between the fourth and fifth cervical segments. Death took place on the following day, a rapidly progressive bed-sore having meanwhile formed over the sacrum. Lumbar puncture five hours before death disclosed no abnormity. On post mortem examination the intestinal lesions of typhoid fever in the second week were found, together with chronic tuberculosis at the apices of the lungs. The inner aspect of the spinal meninges was injected over the lower portion of the cervical cord, and the cord itself, at the level of the fourth, fifth, and sixth cervical nerves, was swollen and spindle-shaped, deep-red in colour, and softened. An inoculation from this situation remained sterile. After the cord had been hardened, numerous recent, small, indiscriminately distributed extravasations of blood were found throughout the spinal cord ; also hemorrhagic infarction of the cord in the lower portion of the fourth cervical segment, involving almost the entire transverse extent of the gray matter, enormous dilatation of the vessel, and distension with blood from the fifth to the eighth cervical segment, advanced degeneration of ganglion-cells in the anterior horns of the cervical cord, even in parts free from hyperæmia and hemorrhage, extensive areas of degeneration in the posterior columns in the lower third of the fourth cervical segment. No micro-organisms of any kind could be found. The absence of fatty granular cells and round-cell accumulation, and multiplication of nuclei is attributed to the early stage of the inflammatory process. The presence of marked parenchymatous changes—cellular degeneration, swelling of axis-cylinders, acute focal degeneration and marked vascular changes—dilatation, hyperæmia, increased permeability—with hemorrhage, at widely separated portions of the cord, is thought to be indicative of the effect of a common noxious agent, probably the toxins of the typhoid bacilli.

DISEASES OF THE ORGANS OF CIRCULATION.

34.—THE ACTION OF DIGITALIS.

By Sir LAUDER BRUNTON, M.D., F.R.S., &c.
Physician to St. Bartholomew's Hospital, London.

[The following is taken from Dr. Brunton's paper, read before the Thirteenth International Congress of Medicine:]

The therapeutic actions of digitalis or of its active principles are that they (1) regulate the heart's action, (2) assist the falling circulation, and (3) act as diuretics. In cases of palpitation and functional irregularities of rhythm without organic disease, small doses of digitalis, such as five to ten minims of tincture, are sometimes very useful. The good effect of digitalis is well marked in cases of palpitation which have come on from physical strain, as by lifting heavy weights, or from anxiety and worry. In cases where the palpitation arises reflexly from irritation of the stomach better results are obtained by bismuth and rhubarb than by any cardiac tonics, although the addition of nux vomica to these two drugs assists their action. In cases of aortic regurgitation where compensation is complete, digitalis is quite unnecessary. Many persons suffering from aortic regurgitation are not conscious of the fact, and it may only be discovered accidentally when a physician is examining them for some other complaint. In aortic regurgitation with full compensation digitalis may possibly be harmful, as the risk in such cases arises from fatal syncope. But digitalis is of the utmost service when the mitral valves become incompetent, either in consequence of damage to the valves themselves or in consequence of dilatation of the cardiac orifices from weakness after infective diseases, such as influenza, or from failure of the hypertrophy consequent upon aortic regurgitation or renal disease. To get the best results in severe cases the use of the drug should be associated with rest in bed and massage. The absence of exertion tends to lower the pressure which the heart has to overcome in systole, and lessens the rapidity of the cardiac beats. The slowness of the pulsation produced by rest is still further increased by digitalis. Now it is during diastole that the heart has time to recuperate. The empty arteries tend to fill, the distended veins tend to become empty, and the venous congestion which led to enlargement of the liver, indigestion, flatulence, œdema of the legs, and albuminuria, tends to disappear. The pulmonary circulation also becomes freer, the shortness of breath and irritating cough become less and less, and finally disappear. The dilated heart being able to contract more powerfully, the ventricular and auricular orifices become smaller, and the valves even though they may be damaged will tend to close the orifices more completely during systole and thus lessen regurgitation. In addition to this the increased force of the cardiac beats tends to oxidise the tissues more completely, for it has been shown that mechanical concussion tends to make oxyhæmoglobin give off its oxygen more freely. Moreover the circulation in the arterioles being converted from a somewhat uniform pressure into a pulsating flow tends to lessen œdema. By the use of massage in addition to digitalis a good deal of work may be taken off the heart because, instead of having to drive the blood right round from ventricle to auricle, it will only have to drive the blood to the periphery, the movements of the masseur returning a great deal of both blood and lymph from the periphery to the heart.

Before concluding, I should like to say a word or two upon the dangers of digitalis in cases of fatty heart and very high tension. It has been said with much truth that it is by no means easy to ascertain with certainty that the heart in any patient has undergone fatty degeneration ; but when we find that its beats are feeble and its sounds are weak, disproportionately to the size of the organ, we will do well to be on our guard against possible injury from digitalis. In such cases, if we wish to stimulate the heart by digitalis, we ought to lessen the resistance in the arterioles by the simultaneous administration of nitrites, such as nitroglycerine, nitroerythrol, or ethyl nitrite, most commonly given in the form of spirit of nitrous ether.

The same precaution should be adopted in cases where the arteries and tension is high, and the heart is just beginning to fail ; but in such cases we have also to remember the risk that may arise from the already high tension being increased and leading to a rupture of a vessel in the brain. In such cases it may be well to avoid digitalis altogether ; but should it from any reason be thought advisable to use the drug, not only should nitrites be given at the same time, but great attention should be paid to the condition of the bowels and liver. From pharmacological researches we learn a great deal about the action of individual drugs ; but there is still an enormous field for investigation in regard to the action of drugs in combination, and although we have no definite information as to why the administration of mercury and calomel along with digitalis should greatly increase the utility of the drug, there can be no doubt whatever that this is the case, and that when digitalis alone fails to produce the result desired, it will frequently act most efficiently if mercury be given along with it. *Medical Press and Circular*, *August* 15, 1900.

35.—THE USE AND ABUSE OF CARDIAC STIMULANTS.

By H. A. HARE, M.D.,
Professor of Therapeutics in the Jefferson Medical College of Philadelphia, &c.

[The following is from Dr. Hare's paper :]

I frequently see physicians who present themselves as patients suffering from disordered cardiac action, firmly convinced in some cases that they have grave heart trouble, and in whom most of the symptoms which present themselves are due to the excessive use of digitalis. In many instances the history of the patient is that being somewhat tired out by the exactions of their work they began to have "tired hearts." This condition resulted in some palpitation on exertion, or other symptom which pointed to cardiac disorder, and recourse was had to larger doses of digitalis. As the heart does not need digitalis, but rest, it is but temporarily benefited, if at all, and the dose is increased still further. Finally marked irregularity in force and rhythm is produced by the excessive action of the remedy. Not uncommonly the cardiac distress is augmented by the fact that the physician has attempted, while actively at work, to keep up his energies by liberal potations of strong coffee provided for him at home or by patients' friends. Here again the result is disastrous, because the tired nervous system and heart are spurred to increased endeavour at a time when they demand and should have rest.

The best medicine for a tired heart is rest, not stimulants, except they be conjoined with rest, and that a little patience as to the time of recovery should be exercised instead of attempting to hurry the recovery by large doses, which overstimulate before it is possible for the process of repair to be complete. This matter of rest for the heart is too often overlooked and ignored, and it is forgotten that this viscus, although designed to work constantly, is often exhausted almost to the border of breakdown. Not only is rest needed for the tired but otherwise healthy heart, but it is even more needful in cases in which there is cardiac breakdown, actual or threatened, in cases already suffering from grave valvular lesions. The cardiac stimulants are sometimes expected to perform miracles, although the patient pursues the same mode of life as before. This is in reality an abuse of a drug, since it is being used to do something which is practically impossible.

Another erroneous use of cardiac stimulants is their employment when it may be that a state of undue excitation is present, and that cardiac sedatives are needed. Not uncommonly in some cases of cardiac irregularity the use of small doses of aconite or veratrum viride will produce the results desired. Again, this class of drugs are often given without due regard to the exact state they are expected to meet. A patient with a feeble heart receives digitalis, it may be, to overcome this feebleness, when in reality the cause of the feebleness lies in a degenerated heart muscle which is incapable of gaining any advantage from this drug, and the drug, by contracting the blood-vessels, actually increases the labour of the heart. Under these circumstances, if any drug is used it should be one, like strophanthus or cactus, the action of which is cardiac, and but slightly, if at all, vascular. Then, too, it is not rare to find digitalis given in full dose to cases of failing heart when the chief cause of the failure lies, not in the heart itself, but because there is a state of high arterial spasm or atheroma, which, by preventing the easy flow of blood in the arteries, gives the heart an immense amount of work to perform. In such cases, if digitalis is given for the heart muscle, its vascular effect and the already existing abnormal tension must be simultaneously relieved by the use of vascular relaxants such as the nitrites.

Finally, in all heart disorders it is well, before using powerful heart tonics, to make a determined effort to discover if any cause exists which may be removed, and thereby really cure the condition. Not rarely the prohibition of the excessive use of tobacco, of alcoholic drinks, of excessive feeding, or sexual excitement, will be the means of dispensing with the cardiac tonic, when without these prohibitions the remedy will be useless.—*The Therapeutic Gazette*, *October* 5, 1900.

36.—THE USE OF THE SUPRARENAL CAPSULE IN DISEASES OF THE HEART.

By S. FLOERSHEIM, M.D.,

New York.

[The following is taken from a preliminary report by Dr. Floersheim:]

I have tried the dry powdered suprarenal gland in many cases of normal heart, but, thus far, I have noticed no appreciable effect from the drug ; but when the heart is diseased, we find a more or less marked effect, due, without doubt, to the action of the drug on the heart muscle. In cases of mitral regurgitation I have found by giving dry powdered suprarenal gland, five grains in a capsule, to be chewed, within from one to ten minutes, the action of the drug became apparent. In one case I noted that the effects became apparent as rapidly as in fifteen seconds.

General effect on the diseased heart.—When the heart has been irregular in its rhythm, with lessened force and quality of the sounds, in many cases, suprarenal when given, has caused the heart to become more regular in its action, in others fully regular, the rhythm improved, the force quite markedly increased, and the pulse more forcible in character, being full and strong, but at the same time soft in character and "easy-going," so to speak, not the hard, labouring pulse.

Rapidity of action of the heart.—I am of the opinion, thus far, that suprarenal has little or no effect on the rapidity of the heart. I have not had occasion to try it in cases with a very rapid pulse rate.

Tonicity.—The heart seems to be markedly toned up in many cases treated, enabling it to perform its work much better and with greater ease.

Predominating hypertrophy.—When the heart's action is full, bounding, and regular in rhythm, no appreciable effect was noticed.

Predominant dilatation.—When the heart is flaccid, the pulse weak, the apex beat diffused, the action of the heart fluttering and irregular, we find the most marked and beneficial effects of the drug. In two cases observed carefully by me, I found fully a quarter of an inch contraction on each side of the heart after administering suprarenal; also the apex beat, which had diffused and was difficult to locate, became more localised.

Condition of the heart following the use of suprarenal.—After the immediate stimulating effects of the drug have passed off, the heart seems to be left in better condition than it was before the administration of the drug, especially in those cases in which the drug acted best. I observed some of the cases for over an hour after the administration of the drug, and in some of them the effects passed off in from two to ten minutes, the heart returning to its former condition.

Intermittency.—Sometimes suprarenal causes the intermittency to disappear wholly or in part, while at other times it has no influence on it whatever. There are cases of apparent heart disease in which the pulse was not what could be called weak, but at the same time was not fair in volume, and was also irregular, intermittent, with the cardiac sounds weaker and muffled, and with general distress over the præcordia, &c., in which suprarenal produced no noticeable effect. I have advised here full doses of either sodium sulphate, Epsom salts, calomel, or compound liquorice powder, so as to get a good cathartic effect, cleansing the bowels out thoroughly, and, on examination next day, I have found, not to my surprise, that the irregular intermittent heart had been replaced by the normally acting heart. This pulse should not be confounded with the myocarditic pulse, though at times it is very difficult to distinguish between them. To such a condition of pulse as has been above described I have given the name of "constipation pulse." Though patients tell me that they have one or two movements every day, still there is, to my mind, an auto-intoxication, which condition of the whole system is promptly relieved by a full dose of a cathartic, carrying off the fæcal accumulations and preventing further absorption of toxic products.

Mitral regurgitation.—A diffused murmur becomes more or less concentrated. The murmur is more easily recognised; the relation of it to the first sound is more readily made out. The murmur in many cases, though more distinctly heard, was decreased in volume; in two cases, the murmur actually disappeared. Murmurs which were hard and rough became softer.

Mitral stenosis.—The murmurs became more audible, more easily recognised, and in the one case before cited, suprarenal acted as a valuable aid in the diagnosis.

Aortic regurgitation.—The murmur is not much affected, except in predominant dilatation, in which the heart is markedly contracted, when the murmur becomes more circumscribed, lessened in volume, softer, and more sharply defined in relation to the normal heart sounds.

Aortic stenosis.—As the heart beats after the suprarenal become more forcible, the murmur becomes louder, more distinct, and sharply defined. When there is marked predominating hypertrophy, no effect of the suprarenal has been noted. Suprarenal has very little influence on aortic disease.

Myocarditis.—In two cases the suprarenal made the contractions more rhythmical, the irregular action became regular for a time, and the intermittent pulse improved with the use of suprarenal, five grains every five minutes until twenty grains had been given. The effects did not last long, and the heart soon lapsed into its former condition, though, I may say, in a better state than it had previously been.—*New York Medical Journal, October* 6, 1900.

37.—THE DIAGNOSIS OF HEART DISEASE IN CHILDREN.

By J. P. CROZER GRIFFITH, M.D., Philadelphia.

[The following is from Dr. Griffith's paper :]

It must be stated at the very outset that the symptoms of heart disease in childhood are quite commonly insignificant or absent altogether. Children have a peculiar power to acquire perfect compensation of a valvular defect. Consequently heart disease in children is frequently discovered purely by accident, there often being no subjective symptoms. In my experience the existence of slight shortness of breath is quite commonly the only symptom. In more advanced cases we may have the ordinary intense dyspnœa characteristic of heart disease at any age. In estimating the value of shortness of breath as a diagnostic symptom, we must remember that anæmic children may readily exhibit this symptom to a decided degree.

Œdema is a suspicious symptom. It quite commonly begins in the feet, and it develops also in the abdomen. It is very important, however, when making a diagnosis, to remember that children become œdematous quite easily under certain conditions. Faintness is a symptom occasionally seen in children with postnatal heart disease, but in my experience it is not at all common. I recollect very well one child whose first symptom was a tendency to faint after he had climbed the stairs. Only careful study showed that the disease in this little boy was in reality a cardiac affection. Præcordial pain is in my experience not common in children. I have seen it marked only in advanced cases, with extreme lack of compensation. In these I have sometimes found the pain very severe. Palpitation is a symptom which is of very little diagnostic value in childhood, not so much that it is not present, as because children do not recognise the palpitation or do not know how to describe it. I have seldom found this symptom present. Cough is in childhood a symptom of no great diagnostic value in cardiac affections. I have found it only where other much more prominent symptoms of the disease were present. In these cases it was an evidence of intense passive congestion of the lungs. The presence of a decided degree of anæmia is sometimes a diagnostic symptom of considerable importance. I have found hæmoptysis uncommon except in bad cases. The tendency to it, which is not at all uncommon in mitral stenosis in adult life, has seemed to me to be decidedly rare in childhood. I have come across it but very seldom.

In connection with the study of the heart murmurs, we have two other matters to be carefully studied also : the pulmonary second sound and the size of the heart. With regard to the pulmonary second sound, we know that its accentuation is a common sign of disease of the mitral valve. In childhood, however, we must carefully remember that the second sound is physiologically accentuated; that is to say, in early and later childhood we expect to find the pulmonary second sound normally as loud as, or even louder than, the aortic second sound. Then with regard to the size of the heart, hypertrophy and dilatation as results of valvular affections become extremely marked in childhood, more so than in adult life. There are certain factors, however, which render the diagnostic value of this sign sometimes uncertain. For instance, the presence of a nephritis will naturally produce enlargement of the left side of the heart. On the other hand an asthma with the consequent emphysema will cause the lungs to overlie the heart and make its size appear less than it really is. Then, too, we must remember that in childhood, before the age of puberty, the right side of the heart reaches somewhat farther toward the right than it does in adult life, and that the apex-beat is quite commonly in the fourth interspace instead of the fifth. In general it may be said that in diagnosis of postnatal cardiac affections in childhood we should observe the following points: avoid making a diagnosis from the presence or nature of murmurs alone; remember the altered position of the right side of the heart and of the apex-beat in childhood; remember that the presence of an accentuated pulmonary second sound is normal, not pathologic; remember that compensation is acquired very easily in childhood, and that the absence of symptoms does not prove the absence of cardiac disease; remember that the most suggestive symptom is dyspnœa, and that œdema must be studied most carefully before it becomes of value as a diagnostic system.—*Journal of the American Medical Association, June* 23, 1900.

38.—ACUTE DILATATION OF THE HEART IN INFLUENZA OF CHILDREN.

By F. FORCHHEIMER, M.D.

[From Dr. Forchheimer's paper:]

An infant or child is taken down in the course of a house epidemic of influenza, with high fever accompanied by symptoms on the part of the respiratory or alimentary tract, possibly with a catarrhal or follicular angina tonsillarum, and within 12 to 24 hours there develops dyspnœa, or better tachypnœa, for it is perhaps more correct to refer to the condition of rapid breathing in this form of the affection as tachypnœa, as all other evidences of dyspnœa are wanting, such as cyanosis and movements of the respiratory muscles. The child lies in bed with congested skin, sleeps a great deal, yet is easily roused; the tachypnœa is represented by rapid breathing (60 or 70, or more per minute), without disturbance between the normal relation of inspiration and expiration, therefore neither inspiratory or expiratory dyspnœa. In some cases the breathing is not very much more rapid than the normal. The pulse is very rapid, depending upon the age of the patient, frequently intermittent, but otherwise normal. Physical examination of the chest reveals nothing, or possibly evidences of a bronchitis in the large tubes; the heart dulness is always found broadened, with no *bruits* as a symptom of this condition, although in one instance I found an endocarditis developing after the acute dilatation had run its course. The urine, which was examined in every instance, was invariably found to contain no albumen. In the course of from 24 to 72 hours, all these symptoms disappear, the temperature, pulse, heart and respiration become normal, the whole condition of the child changes, it returns to its normal state, and then remains well; or the various symptoms of a more prolonged attack of influenza develop. I have never seen this mild form develop into the more severe one, as seen by West; all my severe cases have developed in a different way.

It is reasonable to suppose, with Sansom, that there is some affection of the bulb affecting both the respiratory and cardiac accelerating centers. The source of the irritation would be a toxin, hypothetical as far as the influenza bacillus is concerned, but positive as to some of the pus producers which habitually accompany influenza. It would be fully in accord with the nervous origin of these symptoms that we find broadening of the heart's dulness. The production of acute dilatation of the heart as a result of a disturbance of innervation, has been conclusively proved in many diseases. The second class of cases to be described demonstrates this more fully.

The grave form of the affection presents an entirely different clinical picture. Here there can be no question as to the origin of symptoms, at least, as all the manifestations can be satisfactorily explained by considering the heart. Huchard ("Sur quelques formes cliniques de la grippe infectieuse," *Bulletins et Memoires de la Societé médicale des Hôpitaux de Paris*, S, 3, vol. vii., p. 93, 1890) gives the following concise description of this condition (La grippe cardiaque): "The attack manifests itself by syncope and faintness, which may become fatal; by slow pulse, arhythmia or intermittence, by grave symptoms of cardiac collapse and sometimes by pains resembling angina pectoris."

One of his patients had a very rapid pulse, with a feeling of suffocation upon the slightest movement.

[Dr. Forchheimer thus describes the attack in a grave case :]

On June 6 the child, aged 12 years, was in a state of collapse; she was lying in bed in a soporific condition, from which she was easily roused ; the skin moist, slightly cyanosed ; the face swollen, breathing at the rate of 65 per minute without any effort apparently ; the pulse had come down from 120 beats to 70 per minute, and was weak and intermittent. The slightest effort on her part, such as turning in bed, caused the frequency of respiration to be increased and the pulse to become more irregular and weak. After an attack of coughing the pulse became almost imperceptible, and the breathing ran up as high as 70 per minute. A thorough physical examination was not to be thought of on account of this condition ; but auscultation of the heart showed nothing abnormal ; while percussion, even in the recumbent position, showed the right border of the heart about half a centimeter to the right of the sternum. After two days the condition changed somewhat ; large doses of codeine were added to the medication, as it seemed imperative to control the paroxysms as much as possible on account of their untoward effects upon the heart. Now the pulse gradually began to increase in frequency, going up to 140 beats per minute ; the dyspnœa was not so constant, there being a difference of between 15 and 20 respirations during the condition of being awake or asleep ; but motion, swallowing, or any excitement would make the difference disappear and an attack of coughing would raise the number of respirations even higher than it was before (as high as 90 per minute). The pulse continued rapid all this time, never going below 120 beats per minute, and continued intermittent, although not quite so weak as on the previous days.

Physical examination of the lungs did not reveal anything more than at first, but the heart showed remarkable changes. The superficial dulness was increased to 1 cm. to the right of the sternum ; and after attacks to as much as 2 cm., depending upon the intensity of the paroxysms ; no appreciable change to the left. Over the tricuspid area, as well as at the apex, was heard a soft systolic *bruit*, which also was increased in intensity after paroxysms of coughing. *Bruits* were also heard at the base, especially after the paroxysms of coughing, but they were more difficult to localise, and were conducted in such a way that it was impossible to ascribe them to one valve or another. Gradually, as a result of treatment, all these symptoms began to disappear ; the pulse came down from this time until September, 1897, so that its minimum was 87 and its maximum 120 beats per minute ; the latter upon exertion. As soon as it was possible, graded exercises were used, and the patient was discharged as well in the middle of December, having been ill for five months, with diurnal changes, for better or worse, but on the whole with a constant tendency toward improvement. On May 7, 1899, I examined the patient for the last time. I then found her having lost her fat, having grown four inches, and with a normal heart, which was no longer insufficient under any conditions of exercise or fatigue.—*Pediatrics, August* 1, 1900.

39.—THE "HILL HEART."

By H. J. Campbell, M.D., F.R.C.P. Lond.,
Senior Physician to the Bradford Royal Infirmary, &c.

[From Dr. Campbell's paper :]

There is a class of case, and one which is especially common in hilly districts, where there is no valvular disease, but where the heart muscle is degenerated to an extent which, though not sufficient to incapacitate the patient from following his ordinary avocations or, as a rule, to produce any backward pressure effects, yet, when any sudden strain is thrown upon it, or any interference with its free movements is encountered by it, is apt to give rise to alarming and dangerous attacks. These may only cause distress, dyspnœa, or anginal pain, or they may induce syncope, or even lead to seizures of an epileptiform or apoplectiform character, and may, and not infrequently do, terminate in almost sudden death. [Details of three cases are given.]

As regards treatment, if the disease be in an early stage, cure may probably be effected by the absorption of fat and the hypertrophy of the muscle cells, but if the condition be more advanced the treatment presents much difficulty, for whilst almost every case needs its own special line of treatment it is frequently by no means easy to determine what will be beneficial in any individual case. The first requirement always seems to me to be that the stomach should be treated by strict dieting as well as by gastric antiseptics, such as sulphocarbolate of soda, creasote in mixture, or salicylate of bismuth, or, if necessary, by lavage. Further, it should be insisted on that the meals should be taken practically dry, the necessary quantity of fluid being drunk when the stomach is empty. In addition, some saline aperient such as Hunyadi Janos or Apenta water should be taken with a glass of hot water before breakfast. Later artificial digestants, mineral acids, gentian, strychnine, capsicum, &c., are of service ; but it always seems to me that the first need is to clear the stomach, and to attempt, by preventing distension, to reduce its size. As regards the heart itself, the most important thing is to diminish its work, and this may often be accomplished by making the patient rest in bed with a restricted diet, and by the regular exhibition of trinitrin, or in rare cases erythrol tetranitrate. The milder cases do not, I think, need to be kept in bed if they can be trusted to move about slowly and to obey directions as to diet. Where the attacks are epileptiform or apoplectiform in character, a more marked lowering of blood-pressure by diuretics and free purgation by salines and even sometimes by venesection is advisable. Alcohol, except for sudden emergencies, is, I think, better withheld, or, if it be allowed, it should only be taken in small quantities with meals. As regards the direct stimulation of the heart, I have had, I think, the best results with sparteine sulphate combined with citrate of caffeine. In cases where the heart is rapidly failing, beneficial results may sometimes be induced by administering full doses of strophanthus every hour for from 12 to 24 hours and by the inhalation of oxygen over the same period ; but, unfortunately, in most of these cases where once the left ventricle has dilated to any considerable extent it is a sign that the unequal contest will soon be given up for good. When the seizure is over, however, the most important part of the systematic treatment must undoubtedly be directed to the stomach if future attacks are to be prevented. In most, or at any rate in a large number of cases, when they come under observation, the stomach is found to be markedly dilated, and without question the onset of an attack, whether simply of distress, of dyspnœa, or of a more serious nature, is in the large majority of cases associated with flatulent distension of that organ.

"Hill heart," as this condition may be named, differs from fatty degeneration of the heart as generally described in that there is in the "hill heart" antecedent hypertrophy, and consequently a greater liability to the apoplectiform and epileptiform kind of attack, both being associated with a temporary increase in the blood-pressure. The resulting high tension is thus due to a conservative constriction of the peripheral arteries and a resulting more forcible action of the heart when its movements are interfered with by a distended stomach or other cause. This, of course, to a considerable extent modifies the treatment and necessitates a variation in the methods to be employed according to the stage to which the disease has advanced.—*The Lancet*, *September* 8, 1900.

40.—ANGINA PECTORIS.

By Clifford Allbutt, M.D., F.R.C.P., F.R.S.,

Regius Professor of Physic, Cambridge University.

The group of cases described by Allbutt (*Philadelphia Med. Journ.*, June 16, 23, 30, 1900) are sketched in the following terms :—"The group which we name thus consists, in the great majority of cases, in a peculiar pain often attributed to the heart, but in its chief seat retrosternal, and running thence in the course of certain spinal nerves, in an imperious arrest of movement, and in a sense of impending death, or at any rate, in a peculiar dread ; sooner or later, indeed, the disease is generally, if not always, fatal, in its own peculiar manner. When we inquire farther we find good reason, in nearly all cases to infer the existence of certain structural changes, such as coronary or aortic atheroma ; and frequently, though not perhaps necessarily, such decay of cardiac structure as coronary atheroma and other causes of atheroma are wont to induce. Besides these eminent features there are certain negative peculiarities ; for instance the dyspnœa characteristic of heart disease is not evident in angina—the attitude is one of terror-stricken stillness. Omitting aberrant cases and secondary and subordinate features, such is angina pectoris."

"'Tobacco angina' is not the result of organic disease, it is not fatal, it does not arrest the patient in the same imperious grip, its clinical features and course are different, it is a paroxysm of persistently manifest cardiac pertubations, it probably depends on toxic causes of quite another kind and consequence, and it disappears with the elimination of its cause." Although coronary atheroma and cardiac degeneration are common, angina is a rare disease. There is something in angina which separates it from cardiac disease and from the spasmodic neuroses. Structural disease of the heart itself is not indispensable. Patients attacked in early life may in rare cases recover ; and over the age of 50 they may survive for 15 or 20 years.

The author does not regard vaso-motor changes as the cause, but rather the result of angina, pointing out that any form of severe pain is accompanied by pallor and sweating. Pseudo-angina is frequently accompanied by vaso-motor changes, and in such cases it is quite in accordance with experience that the vaso-motor centre should be less stable, and that when the vaso-motor centre is disturbed that the neighbouring respiratory centre should be also affected, and so cause the "pseudo" dyspnœa. In angina the site of the pain is rarely cardiac, but rather retrosternal, about the root of the aorta. In some cases there may be pain over the heart, but such a pain is more characteristic of the false disease or of the enlarged and labouring heart. The pain, although almost invariable, is not an essential sign. A case is quoted of a gentleman of 45 in whom vague sensations about the heart were followed by a pain in the left palm coming on during exertion. Although there were no signs of disease in the heart or arteries, attacks of true angina developed later. In another case the early symptom of the disease was a sense of weakness and discomfort in the arms, coming on for the first time during the exhaustion following prolonged dancing. Pain is sometimes felt in the epigastrium, and such cases seem to be peculiarly fatal. Although Dr. Allbut is inclined to believe that angina may occur without any permanent static change, yet it usually is associated with permanent organic diseases of the aortic area, such as aortic insufficiency and stenosis, atheroma, coronary disease and aneurism ; as though there were some tie between the causes of angina and these aortic conditions. Mitral regurgitation supervening in the course of angina usually mitigates the disease, probably owing to the fall of blood pressure.

Speaking of the character of the pulse during an attack of angina, the author has not found any constant or characteristic variation of the pulse, although he has had the opportunity of examining the pulse in six cases, and of making repeated examinations in several of them. The sphygmograph is quite incapable of analysing the classical tracing taken by Brunton, and the inference that high tension was present was quite unwarranted by the facts. Putting the different accounts together it may be taken as agreed that the pulse is usually unaffected during an attack of angina, although from the class of cases attacked the pressure is generally high, altogether apart from angina. In some cases, even in pressure, the pulse continues unchanged ; in others it is slowed or quickened a little, or its pressure rises, or it halts or flutters for a few beats. In the current hypotheses of angina these facts relating to the pulse are too often entirely disregarded. A series of morbid changes, known best in the horse as intermittent claudication, are often sighted in illustration of the nature of angina. This theory might be used to explain the final and fatal attack, but it is hardly satisfactory in ordinary attacks in which there is practically no disturbance of the pulse, or at any rate no more disturbance than occurs in flatulent dyspepsia or an irritation of a sensory nerve. Claudication again does not explain the essential feature of pain ; so far as is known thrombosis of a coronary vessel does not cause pain, but it must be admitted that observations on this subject are not numerous. Cramp of the heart is often regarded as the exciting cause of the attack, but here again the regular beat of the heart is strongly opposed to such an origin. The cardiac muscle is regarded as being incapable of cramp, its quality of rhythm being too deeply implanted to allow of any such departure from its normal action. The doctrine of dilation does not receive any support from the acute dilation which occurs so commonly in cases of over exertion, pain anything like that of angina being constantly absent. The pale, pinched face of angina is in strong contrast to the cyanosis and dyspnœa of dilation, so that this view receives no support from symptoms.

The view advanced by Dr. Allbutt is that the pain of angina is a referred pain, not cardiac but aortic in origin. Cases of aortitis accompanied by intense pain are cited in support of this view. Recently published cases of pericarditis involving the base of the heart, and accompanied by intense pain, lend a strong support to this view, as also a case of the author's in which acute rheumatic aortic disease was accompanied by intense attacks of angina. Although disease of the coronary arteries is frequently found in angina, the association is not invariable ; and conversely the disease of these vessels is frequently present without pain. The essential feature is probably disease of the root of the aorta.

The fatal termination of an angina is regarded as being secondary and quasi-accidental, and comparable to the fatal termination sometimes seen in gall stones, or resulting from a blow on the abdomen or on the testicles. This explanation fits in well with the fact, recently emphasised by Musser, that the onset of mitral regurgitation is usually associated with a disappearance of the painful spasms of angina ; it also accords with the well-known action of the nitrites in relieving the pain of angina, the tension in the aorta being lessened in both cases. The question to solve is why attacks of angina occur in some cases of disease of the aorta and not in others. It may be that in some instances the functions of the nerves are gradually lost and rendered gradually insensitive. It seems likely, judging from the scanty evidence, that angina occurs chiefly when the first inch of this vessel is affected, and it is in just such cases that the coronary vessels or their orifices would be implicated, and the nerves of the cardiac plexus involved.—*Montreal Medical Journal*, *August*, 1900.

DISEASES OF THE ORGANS OF RESPIRATION.

41.—EMPYEMA FOLLOWING LOBAR PNEUMONIA.

By W. Hale White, M.D., F.R.C.P., Lond.,
Physician to, and Lecturer on Medicine at Guy's Hospital.

[From Dr. White's paper :]

Perhaps the best way to consider the subject is to see what we can learn from the 45 cases of empyema following upon lobar pneumonia which occurred in Guy's Hospital from 1883 to 1898 and to check the knowledge thus gained by the patients now in the hospital and one who has recently died. By far the most important aid to diagnosing that empyema has followed pneumonia is the temperature. The usual thing, if empyema follow, is for the temperature to fall when the crisis takes place, for it to remain down two or three days, for it then to rise again, so that it soon becomes from 2° to 4° or 5° above normal in the evening and about 1° or 2° in the morning ; this continues until the pus is evacuated. In many cases there is no apyrexial interval and probably in some of these pus is present from quite early in the illness. There is a third group in which also there is no interval during which the temperature is lower, but in which there is some complication present that may well explain this. Pericarditis and malignant endocarditis may both of them be associated with empyema after pneumonia, and if they are present early in the case they may prevent the fall. It is noteworthy that although pericarditis is a common complication of pneumonia, and five of our cases of empyema had pericarditis, yet pyopericardium is so rare. Only one of our 45 cases showed it. Three of our 45 cases developed pneumococcal malignant endocarditis.

Although the study of the temperature is most important in helping to diagnose an empyema following pneumonia, it is not an infallible guide, for in the first place the temperature may remain up for some time and yet no pus be present. Crisis occurs in only about half of all the cases of pneumonia, and when there is no crisis the temperature sometimes falls irregularly and tediously. Usually such temperature receives no explanation from the condition of the patient, but it is to be noted that these irregular unexplained temperatures which may, especially in children, follow upon pneumonia do not often show the considerable daily range which is so suggestive of pus, but, on the other hand, as we shall see directly, pus may be present without any wide daily range. Sometimes the persistent temperature after pneumonia is due to some other complication—*e.g.*, malignant endocarditis—and not to empyema, or it may be due to some associated disease such as typhoid fever. In the second place, an empyema in quite exceptional cases follows pneumonia with little or no rise of temperature to reveal its presence. In one of our 45 cases the temperature slowly fell to normal, but the signs of a localised collection of fluid below the left clavicle remained and an exploring needle revealed a localised empyema. There is little to be said about the physical signs. Pus gives the well-known signs of fluid, but nothing taxes the skill and experience of a physician more than the detection of small empyemata, for they are often surrounded by a thick layer of lymph and they have much solid lung in their neighbourhood.

Much discussion has taken place about the treatment, for it has often been stated that when the pus contains a pure cultivation of pneumococci aspiration will suffice and incision is unnecessary. Simple aspiration has been tried in several of our 45 cases, but always in a few days the temperature, which at first fell after the aspiration, has begun again to rise and to assume a hectic type, and at the same time signs of fluid have reappeared. One or two very bad cases have died, but in most cases the chest has been ultimately laid open and the patient has done well. Two patients who have been aspirated have refused to submit to any further operation and have consequently gone out of the hospital. One we have fortunately been able to trace, and Mr. Moss kindly visited him at his home, and reports that he is now quite well and that his chest seems healthy, although no incision has been made into it. He was admitted under my care for pneumonia on October 16, 1897, and subsequently was under the care of Dr. Pye-Smith. Five ounces of pus were withdrawn on November 20. The temperature fell, but soon began to rise again, so six ounces were withdrawn on the 28th. Again the temperature fell, but in a few days it rose again and showed wide daily fluctuations, and as he would not have anything more done he left on December 12, 1897—that is, two and a half years ago. Whether he has coughed up a small empyema it is impossible to say. In none of our cases did a single aspiration suffice to stop the pyrexia and formation of pus, although in some cases it was proved that the pus contained no organisms except pneumococci. So we may conclude from our experience at Guy's Hospital that it is very unlikely that simple aspiration will cure any case of pneumococcal empyema; still it must be remembered that a certain number of cases have been recorded in which it has appeared to be curative. It seems to me that if the empyema is small it is wiser to evacuate it by incision, for if aspirated probably it will a week or so later have to be incised, and as it is small and will soon heal up it may as well be incised at once. Also, if the empyema is a large one it is better incised (first of all slowly letting out the pus to prevent cardiac failure), for the patient is seriously and dangerously ill, and therefore it is not right to prolong his illness by aspiration, as that will almost certainly have to be followed by incision in a week or so. Still, in certain cases in which the patient is not very ill and much objects to an anæsthetic or to an operation, you may at his wish try simple aspiration if the pus withdrawn by the exploring needle gives a pure cultivation of pneumococci. It is said that children recover more often with simple aspiration than adults.

Turning next to the prognosis I find that among our 45 cases 13 died, giving a mortality of almost 29 per cent. This is considerably higher than that given by some authors, but then it must be remembered that children—in whom the prognosis is most favourable—often go to a children's hospital, so that a large general hospital does not get a fair proportion of patients under 10 years of age, and further, four of the 13 had signs of general infection as shown by malignant endocarditis or infective aneurisms, and two were instances of pneumonia occurring in those patients who were already the subjects of phthisis. If we deduct these six cases we get a mortality of seven among 39 cases, or about 18 per cent.

The amount of pus found in these empyemata is most variable; 170 ounces were present in one of the patients who had malignant endocarditis. In striking contrast to these is the case already mentioned in which only half an ounce was found, although 24 days had elapsed since the secondary rise began.—*The Lancet, November* 10, 1900.

42.—PRIMARY ECHINOCOCCUS CYSTS OF THE PLEURA.

By Charles Cary, M.D.,
Professor of Clinical Medicine, University of Buffalo, N.Y.;
and
Irving P. Lyon, M.D.,
Instructor in Clinical Medicine, University of Buffalo, N.Y.

[The following is taken from Drs. Cary and Lyon's exhaustive paper :]

Summary of case.—Physical signs of chronic pleurisy, with adhesions and effusion at right base ; aspiration of albuminous fluid loaded with cholesterin crystals ; clinical diagnosis of chronic encysted pleural effusion. Operation. Lung free, no adhesions, no effusion; removal from pleural cavity of a small mass of collapsed cysts resembling grossly echinococcus cysts. Microscopical examination. Outer cyst-wall thin, hyaline, without lamellation, and infiltrated with cholesterin crystals; lining membrane degenerated and fatty, and containing much cholesterin, but no scolices or calcareous corpuscles; final discovery, after continued search, of two echinococcus hooklets. *Anatomical diagnosis:* Degenerated, exogenous, primary echinococcus cysts of pleura.

Cysts.—The mass removed from the pleural cavity at operation consisted of a small mass of collapsed cysts closely adherent to one another, and varying in size from that of a millet-seed to that of a small lemon. Many of the cysts were found to spring from the walls of adjoining cysts, having a wall in common at their line of union. Externally the cyst-walls looked very thin and delicate, white, translucent, and glistened with the impregnation of crystals. When cut, the cyst-wall showed no tendency to curl. The interior of the cysts showed a relatively thick, soft, white, granular layer, which could be removed by the slightest touch. The cysts were all collapsed and without fluid content. When placed in water, the cysts absorbed it and swelled to a globular form. The microscopical examination of the fresh cysts showed as follows: (*a*) The external wall, when teased, showed no true lamination, though slight suggestions of it were seen in occasional bands of fibrils. No cell structure could be made out. The tissue looked hyaline and structureless. Abundant cholesterin crystals were seen throughout. Frozen sections stained with hæmatoxylin and eosin showed the same hyaline appearance, with many bands or striations branching off towards the interior of the cyst. (*b*) The soft material lining the cysts was found to consist chiefly of fatty detritus and cholesterin crystals. An exhaustive search, lasting for many days, for echinococcus scolices, hooklets, or calcareous corpuscles, was without reward for our labour, but Dr. Stiles, to whom specimens were submitted, was more fortunate in his examination, and succeeded in finding in the cyst content two echinococcus hooklets.

After studying the literature of the subject, we assume that in reporting this case we may, perhaps, be placing on record for the first time the type of degeneration of echinococcus walls which we have above described. Various other processes of degeneration of echinococci have been described, of which may be stated the following brief summary: The earliest changes usually begin in the surrounding capsule, which softens and disintegrates, or, on the other hand, hypertrophies or undergoes calcareous degeneration. This is followed by the fatty degeneration and disintegration of the parenchyma lining the interior of the cyst. The fluid contents of the cyst are gradually absorbed and inspissated into a granular and fatty detritus, or may undergo gelatiniform, colloid, caseous, or purulent degeneration, while the cuticle softens and disintegrates into an amorphous detritus, or may become calcified. These processes may also follow the rupture of the cyst. Sometimes the process of degeneration is so complete that there is left only a small, dried up, knotty mass as the remains of the previous cyst. The exogenous form of echinococcus cysts, as seen in our case, is relatively uncommon in man, at least in its typical form of multiple, external budding. The endogenous form and the simple, single cysts are the forms usually seen in man. In herbivorous animals the exogenous form is said to be common (Leuckart). No case of multiple, budding, exogenous echinococcus cysts of the pleura has been previously described, as far as we have been able to ascertain.

The physicial signs found at the base of the right chest in our case were not especially suggestive of echinococcus cysts as opposed to encysted pleural effusion, though no positive, differential, physical signs are known, save the "*fremissement hydatique*" first described by Briançon and Piorry, which could hardly be expected to be obtained in its typical form through the bony chest-wall. It is possible, however, that the prolonged, harsh, vibrating fremitus which we felt and heard over the area of dulness was in fact a *modified hydatid fremitus* produced by the movements imparted to the cysts by the lung in its inspiratory expansion. An irregular line of limitation of the percussion flatness has been said to be usual in hydatid cysts of the pleura, as well as an anomalous mingling of normal and abnormal physical signs on palpation and auscultation. As illustrated by our case, there seems to be little tendency for echinococci of the pleura to invade by extension neighbouring organs, excepting in the case of peripleural echinococci, and curiously, also, echinococci of the pleura rarely excite pleurisy.

The prognosis in unoperated hydatid cysts of the pleura, primary and secondary, is almost hopeless, and no remedial measures short of radical extirpatory operation should be considered. Of the thirty-one unoperated cases of primary and secondary echinococci of the pleura in Neisser's statistics, all died without exception, including even those cases in which evacuation took place by rupture into a bronchus. The fatality of unoperated hydatid disease of the pleura is accounted for in part by the tendency of the cysts to become infected and purulent, and also, in many cases, by the profound *toxæmia* resulting from the rupture of the cysts and the absorption of their fluid, which is very toxic. Brieger first and, later, also Boinet and Chazovlière have succeeded in separating from hydatid fluid a toxic substance that is rapidly fatal to animals after injection. For the same reason exploratory puncture of the cysts has been followed in many cases by a rapidly-developing toxæmia and death, as well as by sepsis. A common sign of toxæmia following exploratory puncture is the development of a general urticarial eruption. Because of the danger of sepsis and toxæmia resulting, it would be conservative practice to undertake a radical operation, following exploratory puncture, at the very earliest possible moment after reaching a diagnosis of echinococcus cyst.

In conclusion, we wish to express to Professor William H. Welch and Dr. Charles Wardell Stiles our great indebtedness for their interest in our case and their valuable assistance in confirming our diagnosis.—*American Journal of the Medical Sciences*, *October*, 1900.

43.—PNEUMONIA IN CHILDREN.

By NESTOR TIRARD, M.D., F.R.C.P.,

Senior Physician to the Evelina Hospital for Children, &c.

[From Dr. Tirard's paper at the meeting of the British Medical Association, 1900:]

In children the nature and varieties of pneumonia frequently present greater difficulties than in adults, but these are, I think, often over-rated by those who have not had the opportunities of study in the wards of a children's hospital. There is, perhaps, a tendency to assume that most cases of pneumonia in children are of the type of broncho-pneumonia in which the finer bronchi throughout the lungs are affected, and the pneumonic process only attacks scattered patches of irregular size. This is the form commonly described as lobular pneumonia or catarrhal pneumonia, and the distinction between this and capillary bronchitis—if there is any distinction—is by no means well defined. This form of pneumonia is more frequent amongst infants, or at least amongst those under two or three years of age. After this age, however, the tendency to assume the adult type is increased rapidly, and a large proportion of the cases ordinarily admitted into the wards of a hospital conform in general character and in physical signs with cases of true lobar or croupous pneumonia. One or more lobes present the indications of consolidation, while over the rest of the chest the signs of engorgement may be well marked, and perhaps more generally diffused than in adults. It is this extensive engorgement which has, in my opinion, led to too great stress being laid upon the frequency in children of broncho-pneumonia as compared with lobar pneumonia. Regarding the nature of pneumonia, all evidence—clinical and bacteriological—tends to show that it is the result of a general infection, comparable to one of the infectious fevers.

With regard to contagion, I feel extremely doubtful whether pneumonia is ever contagious in the ordinary sense of the term, that is, whether without the intervention of any other disease, a child with pneumonia can form a focus of danger to other children or nurses in the ward. This has been maintained by Dr. William Pepper, of Philadelphia, who says he has seen "a local epidemic in a children's hospital in which the disease crept from bed to bed around the ward."

Of the varieties or abnormal forms of pneumonia in children which have recently come under my notice, the departure from the normal may affect (*a*) the temperature; (*b*) the initial symptoms; (*c*) the physical signs. Some cases exhibit an abnormally high temperature—one case came into hospital with a temperature of 106°, but in other patients this symptom only occurred immediately before the crisis. Other cases exhibit an unusually sharp crisis with a fall of 9°, 10°, or 11½°, for instance, in one case under my observation the temperature fell from above 106° to below 95°. Other cases exhibit curious oscillations of temperature which may render the diagnosis doubtful. Other cases showed an abnormal mode of onset from which tuberculous meningitis or cerebral tumour might be diagnosed. Abnormalities are scarcely to be explained or accounted for. Assuming that pneumonia is due to germ influence, the high temperatures may perhaps be due to the retention of a toxin rather than its elimination in the exudate which causes consolidation. This appears to me to be a reasonable hypothesis, more particularly for those forms of pneumonia which have been described as "cerebral"; in these cases all indications of pulmonary trouble may be wanting, while the chief symptoms are great pyrexia with nervous symptoms.

Cerebral cases are said to be more common when the changes affect the upper lobes, but the clinical course is more suggestive of retention. It is possible that the different varieties may depend upon the presence of different organisms. Certainly the post-influenzal pneumonia is of a low type and apt to follow a prolonged course. Some prolonged pneumonias appear to be secondary to tuberculous changes. In many cases a single examination may leave some doubt in the mind of the observer, and it is only when the case drags on with rapid loss of weight and strength and characteristic changes in the skin that the tuberculous character is reluctantly admitted.—*British Medical Journal*, *September* 1, 1900.

44.—SERUMTHERAPY IN CROUPOUS PNEUMONIA.

By J. C. Wilson, M.D.,

Professor of Practice of Medicine and of Clinical Medicine
in the Jefferson Medical College, Philadelphia.

[From Dr. Wilson's paper :]

In February last Dr. McFarland placed at my disposal antipneumococcus serum prepared in his laboratory to be delivered fresh at such times and in such quantities as might be required for the treatment of cases of croupous pneumonia in the German Hospital in Philadelphia. The treatment has been carried out under my direction in a series of eighteen cases by Dr. Page, assistant physician to the hospital, and my residents, Drs. Moore and Uhle. The extreme variations in the course of the attack and in the mortality of croupous pneumonia as modified by the age of the patient, his habits, previous health, antecedent disease and complications, render general statistics wholly unreliable in determining the efficacy of any plan of treatment. I therefore submit brief clinical histories of the cases, recognising that the results can not be regarded as conclusive, but venturing to hope that as a contribution to the clinical study of serumtherapy they are not without value. [The details of the cases have had to be omitted here.] It is important to state that the serum was not used in these cases to the exclusion of other treatment. On the contrary, individual patients were treated in accordance with the usual plan in my service at the German Hospital, namely, by the systematic administration of Dover's powder; the application of ice bags to the affected region of the chest; the use of calomel, strychnia, alcohol, inhalations of oxygen when necessary, and such other symptomatic treatment as seemed judicious, in response to the indications in individual cases. The injections of serum were given in most instances directly after the patient's admission to the ward. In some few cases a delay of several hours arose in order that fresh serum might be obtained.

Of the 18 cases, two were women, 16 men. The youngest was 15 years of age, the oldest 48. In three instances there was a history of previous attacks of pneumonia. One patient was admitted on the first day of the attack, three on the second, two on the third, three on the fourth, four on the fifth, four on the sixth, and in one instance the day of the attack was not ascertained. The temperature upon admission varied from 101·2 to 105 F. The pulse frequency upon admission ranged from 90 to 128, and in 16 of the cases was 100 or higher.

Albuminuria was noted in 15 cases. In nine of these cases casts of various kinds, usually hyaline, were also present; and in one blood was present in the urine. Blood examinations were made in 15 cases, usually upon the day following admission; in some instances later than this. In 13 of the cases there was very marked leucocytosis. In two the leucocytes numbered 8,500. In one of these the defervescence was complete 27 hours after the first serum injection; in the other, admitted on the fourth day of the attack, death took place on the seventh day. This patient, a woman aged 42 years, weighed over 200 pounds. The attack followed influenza. There was a reduction of the red blood-corpuscles in all cases, usually moderate. The amount of hæmoglobin was notably reduced in every instance, the least reduction being to 76 per cent., and to 82 per cent. Rusty sputum was present in 17 cases. In a case admitted on the sixth day, the sputum was purulent. The pneumococcus was reported to be present in the sputum of 15 cases. (No examination was made in two.)

The summary of the dosage is interesting. In the earlier cases it was given somewhat timidly and at considerable intervals, the effect being closely watched. Later it was given freely and rapidly. In the first four cases the age of the serum, that is, the period that had elapsed from the time the serum was taken until its employment therapeutically, was not ascertained. In the subsequent cases it was known and recorded. The serum in all the cases was administered hypodermically. The total quantity varied from 20 c.c. to 460 c.c. Three cases received 400 c.c. or more. The administration extended over a period varying from six hours to eight days. The age of the serum varied from seven to 53 days. The immediate effects were more favourable and more marked in recently drawn serum than in that which had been drawn for longer periods. They consisted in general in lowering the temperature and pulse frequency, mitigation of pain and tendency to drowsiness. Several of the patients expressed themselves as feeling better after the injection, and seemed to be anxious for the time when it should be repeated. There were no effects observed that could be ascribed to the trikresol present in the serum. Of the 18 cases, four died, a mortality of 22·2 per cent. In two of the fatal cases no improvement followed the administration of the serum. In the two other cases it is noted that slight improvement followed the earlier administrations of the serum, but that the later injections were without effect. The defervescence was usually by crisis or rapid lysis. The duration of the attack varied from five to 14 days, the majority of the cases coming to an end on the sixth, seventh, or eighth day. Of the four fatal cases, death occurred in two on the fourth day of the attack, in one on the fifth, and in one on the seventh. In three of these cases the patients were alcoholic. In the other case no information concerning the previous habits of the patient could be obtained. In six of the cases that recovered there was a history of habitual excesses in alcohol. The average duration of the stay in the hospital of 13 of the 14 cases that recovered was 20½ days, one patient remaining in the ward at the time of the writing of the paper. It is interesting to note that of 20 patients treated in my service in the men's medical ward at the Pennsylvania Hospital during the same period, on the same general plan but without serum injections, four died, a mortality of 20 per cent. In this series eight of the patients, including the four fatal cases, were intemperate. No conclusions as to the effect of a plan of treatment can, however, be drawn from a limited series of cases.—*The Journal of the American Medical Association, September* 8, 1900.

45.—THE TREATMENT OF HÆMOPTYSIS IN PHTHISIS.

By J. E. FRASER, F.R.C.S., F.R.C.P. London,

Formerly Assistant Resident Medical Officer at Ventnor Chest Hospital.

[From Dr. Fraser's paper :]

The problem is as to how we are to bring down lateral pressure? There are only two ways of doing this in the pulmonary vessels : (1) by acting on the heart-beat, the primary origin of all blood pressures ; (2) by acting on the vascular approaches to the wounded vessel. The pulse is full and rapid, almost bounding in some cases, and the effect of morphine on this pulse is very marked and appreciable to the finger, evidently lessening the number, and particularly the force, of the beats. Contraction of the vascular channels in front of the lesion is well brought about by ergot, but the use of ergot is only allowable on the supposition that hemorrhage is from a vein or small arteriole ; moreover, ergot, or ergotin, as I prefer, is very often, in fact generally, unnecessary, morphine being by itself quite sufficient to stop the bleeding. There is also perhaps some advantage gained by not using ergot unnecessarily, as unstriped muscle is liable, like the other variety, to fatigue, and thus the further use of the drug, if it happened to become necessary, would not be possible. Give the patient, then, an injection of morphine, and ergot if you think it necessary. The tolerance of these patients for morphine is very marked; in a suitable case I have little hesitation in giving half a grain hypodermically, never less than a quarter of a grain, and in these doses it only produces drowsiness; I have not often seen patients sleep after the injection. Hemorrhage having ceased, the next, and to my mind the most important, indication in the whole treatment is to prevent recurrence.

A very important thing to be remembered in endeavouring to prevent recurrence is that after a certain varying interval the heart begins again to pull itself together and beat with increasing speed and power, so that hemorrhage recurs owing to the lateral pressure rising higher than the temporary blocking of the wound is able to withstand. When, a few hours after the first bleeding, the force and frequency of the pulse commence to rise again, it must be looked upon as a danger-signal of great importance, implying certain recurrence of bleeding, and showing that the safety limit of time and blood-pressure is in danger of being reached at any moment. In my opinion this condition is one that calls imperatively for interference to prevent the otherwise certain hemorrhage, and morphine should be given for the same reasons as in the primary hemorrhage. Some patients show this tendency to recurrent bleeding very shortly after the first attack, others not for many hours; the former will generally require frequent interference to keep down the lateral pressure. The main points to be remembered are to keep down the speed and force of the pulse, and to effect this by a liberal use of morphine, supplemented by ergot when necessary; these injections may be given every two, three, four, or six hours, as indicated, and the length of time between them can be gradually increased after the first day or so, as the heart seems to settle down to quiet action under the injections. The inconveniences of this treatment are justified by the results. My experience of drugs given by the mouth is not encouraging; they are probably not absorbed properly, as their effect is very uncertain.

We cannot do much in the direction of more directly increasing the resistance at the bleeding point. Chloride of calcium and carbonic acid gas have been brought forward by Professor Wright, of Netley, as hæmostatics; tannic and gallic acids, and, I think, hamamelis and some other drugs, also belong to this group. As regards chloride of calcium, I have only seen a few cases in which I could anticipate its usefulness, and found it of service. Now and then we meet with patients whose blood seems to be deficient in clotting power, and in them its use would be indicated. The use of carbonic acid gas in pulmonary hemorrhage would seem to be contraindicated on theoretical grounds. I know nothing about its use personally.

Rest in bed is necessary. In a minor hemorrhage, a few ounces, stopped at its outset, and not allowed to recur, sufficient time should be given the wound in the vessel to heal, say five to seven days, whereas, perhaps in minor hemorrhages, and certainly in larger ones, additional time should be given, even to several weeks, for the consequences of the hemorrhage to be tided over. The diet should be light and cold. The question of purgatives is one on which opinions are divided. My own practice varies. If the patient is quiet, the initial hemorrhage slight, and no immediate prospect of recurrence for some hours at any rate, a saline aperient at the commencement is useful; but as I look on it simply as a matter of convenience, and not necessity, I am careful to prohibit any purgative when the heart's action is excited; I have seen harm follow action of the bowels in this latter class of cases. It is of course physiologically incorrect to say that free purgation can lower blood-pressure by direct withdrawal of fluid.—*The Therapeutic Gazette, August* 15, 1900.

46.—OPEN AIR TREATMENT.

A DISCUSSION ON THE THERAPEUTICS OF OPEN AIR.

By FREDERICK WILLIAM BURTON-FANNING, M.D.Cantab., M.R.C.P. Lond.

Physician, Norfolk and Norwich Hospital.

[From Dr. Burton-Fanning's paper before the British Medical Association, October 13, 1900:]

Beside the absence from open-air of pathogenic germs, allowance should probably be made for the presence of ozone, which, according to some experiments of Dr. Ransom, exercises a distinctly beneficial effect in cases of phthisis. The same observer's researches on the fate of tubercle bacilli exposed to currents of fresh air need only be mentioned, as they are so well-known to everybody. Lastly, the view is held by many that some peculiar property belongs to air in motion.

Generally speaking the effects of life in the open air are increased sense of well being, increased appetite and assimilation, resulting in gain of weight and physical development, reduced frequency and increased strength of the pulse, nerve tone is improved, and healthy sleep is encouraged, the blood is improved in quality, the lungs work more actively, and there is comparative immunity from respiratory catarrh. Taking these effects separately as they concern our patients with pulmonary tuberculosis, the patients' own statements can be accepted as to the feeling of well being, one's universal experience is that they express themselves as infinitely better in the open air and feel unable to remain in a close room. The increased appetite that ensues on exposure to open air is familiar to all of us and is of fundamental importance in the treatment of phthisis. In the persistent absence of appetite we are met with an insuperable obstacle to the restitution of a consumptive. But I have been surprised how seldom one has had any real difficulty in getting the large amount of food comprised in a sanatorium dietary eaten by the majority of one's patients. I think there is a tendency among writers on the open air treatment to forget that it is not the ingestion, but it is the assimilation, of much nourishment that is to be aimed at. Open air not only helps the patient to grapple with his large meals, but it also promotes their absorption. One has learnt that the persistent use of open air, perhaps for many months, is one's surest remedy for the furred tongue, anorexia, nausea, and dyspepsia of phthisis.

In a general hospital I have had patients under observation on a specified amount of food and under the same conditions of rest; then these patients have been continually exposed to open air, and, without any alteration in the amount of food or rest, they have gained more weight. I should say that the promotion of assimilation constitutes one of the most striking advantages of open air.

The salutary effects of hyperaëration on the other organs combine to produce the total result of reinforcement of the consumptive patient. And herein lies the chief action of open air, fortifying the natural powers in their resistance to the disease. In about one-third of my patients distinct gain in weight and general health has preceded reduction of fever; in this class I think open air is exerting its influence, especially in increasing the patient's natural powers of resistance. In another class one notices that weight is not made till after fever, night sweats, and other toxic manifestations have been lessened. Here it is probable that the advantage of open air depends chiefly on its checking septic processes in the lungs. We approach the difficult question of mixed infection, upon which there is no time to dwell now. One would only say that the examination of sputa in phthisis invariably leads to the detection of innumerable varieties of cocci. My own personal experience has been that in the expectoration of patients with typical hectic streptococci are by no means invariably present, while they have been detected where no fever existed. On the other hand, the differentiation between the other forms of coccus always found in these cases and streptococcus may be impossible, so the best bacteriologists tell us. As regards the tubercle bacillus ensconced in the lungs, fresh air probably does nothing direct, but the chances of reinfection are hindered by it.—*British Medical Journal, October* 13, 1900.

47.—THE MUNICIPAL CARE OF CONSUMPTIVES.

The long and able report recently submitted to the Town Council of Edinburgh by a special sub-committee of the Public Health Committee of the Council—a report which almost certainly is in large measure the work of Bailie Pollard, the convener of the Public Health Committee, whose admirable and whole-hearted exertions in the cause of sanitary progress in Edinburgh every one of his fellow-citizens warmly appreciates—approaches the subject of the public supervision of tuberculous diseases and the dangers attendant thereon from the spread of infection, in a bold yet rational and scientific manner. Aided by expert advice, the framers of the report commence by stating that consumption is curable; referring to the apt French aphorism to the end that "consumption in the rich is sometimes, in the poor never, cured." After a description of the actual active agent in the production of tuberculous disease, and the general conditions, personal and of environment, which conduce to its development, comparative figures are given, embodied in tables and maps, to illustrate the fact that meteorological factors, especially of temperature, or poverty by itself, or combined with climatic severity, cannot be held to necessarily facilitate the onset of consumption. Thus Russia, the coldest country in Europe, occupies the lowest position among European nations, classified from the smallest to the greatest proportion of phthisical mortality; Austria, closely followed by her twin-sister, Hungary, occupying the second lowest place. France, considered as a whole, shows but little improvement upon Hungary, although the southern parts, taken separately, yield a low rate. Germany, Sweden, and Ireland, notwithstanding the humidity of the last named's climate, afford a lower rate, Norway, Denmark, Scotland, the Netherlands, and Italy following, while England and Wales occupy the proud position of showing the lowest rate of mortality from phthisis in Europe. When the British Islands are more closely considered, Connaught, the Hebrides, Ross, and Sutherland rank with the most southern counties of England as the least subject to consumption. Munster presents the same rate of mortality from this disease as the more affluent counties in the Midlands and south of Scotland. Ulster and Leinster, certainly with greater material advantages than some of those parts already mentioned, exhibit the highest rates in the kingdom. The communicability of consumption is next treated of, and the various means by which transmission of the disease can be avoided, or at least diminished in frequency. The enormous improvement which has been effected during the present reign through the application of rational and sensible sanitary measures is strikingly illustrated by a chart; plotted out from the mortality rates per 10,000 inhabitants of England and Wales between 1838 to 1894, from which it is seen that a rate of 38, recorded during the first year of the 56, contrasts strikingly with the 14 shown by the last annual period. The very considerable success which has followed the fresh air and feeding system of treatment is then emphasised, and as a natural corollary the duty of municipalities towards the extirpation of consumption discussed. These duties, as defined by the reporters, are: (1) The advising of the public as to the main characteristics of consumption, and as to its origin. (2) Adoption of satisfactory methods of disinfection of houses in which cases of consumption are present. (Edinburgh, Dublin, Glasgow, Bristol, Dundee, Liverpool, and Manchester are ready officially to disinfect any dwelling-place under such circumstances upon request.) The report suggests that it is worthy of consideration whether dwellings in which a case of consumption has terminated fatally should not be adjudged liable to compulsory disinfection by the local authority. (3) The compulsory notification of consumption can hardly be deemed warranted, but the public should be encouraged to note the earliest signs of the disease, and by calling in medical assistance render the diagnosis certain by the bacteriological examination of the sputum, a duty already undertaken by the town in connection with the poorer class of patients gratuitously or for a small sum.

One of the most difficult questions to deal with concerns the treatment and management of patients unable to provide for themselves, and who are in the advanced stages of the disease. The ordinary sanatoria for the treatment of phthisis refuse to treat any far advanced cases, at least as a general rule; while it is just such patients who are most dangerous to others and most liable to affect their surroundings. The committee suggest that 100 beds in the present fever hospital, until such time as the city is able to make use of the new hospital at present building, might be devoted to the treatment of advanced cases of consumption, thereby removing a considerable portion of the risk to the lieges annually. As the results of the Paris Municipal Hospital, conducted upon very similar lines as proposed for Edinburgh, go to show that the average duration of life after admission in cases of advanced phthisis only reaches three months, 100 beds at that ratio would provide for 400 patients per annum, but even if only 200 were admitted yearly a very considerable reduction in the number of cases privately treated, each a source of danger to others, would be effected.—*A leading article from The Medical Press and Circular*, *August* 15, 1900.

48.—INTRAPLEURAL INJECTIONS OF NITROGEN GAS IN TUBERCULOSIS.

By HENRY P. LOOMIS, M.D.,
New York.

[The following is taken from Dr. Loomis's paper. He has tried this rather novel treatment suggested by Dr. J. B. Murphy.]

The quantity of gas to be injected will vary considerably, and will range from fifty to two hundred cubic inches. The amount to be injected will vary with each case according to the dyspnœa, distress, irregularity of the heart, and displacement of the mediastinal contents. My experience has been that people vary a good deal in the way in which they take the injection. I have never seen any bad results whatever follow the injection. If the patient's discomfort should suddenly become very great, the current of gas can at once be reversed by raising the cylinder and withdrawing part or all of the gas from the chest.

Kind of cases benefited.—Theoretically, cases of apical unilobar tuberculosis in the early stages with lungs free from adhesions would be the ones in which we should expect the best results from this treatment. These are the cases in which the most compression is possible. The localised cavity at the apex is another class of cases which presents favourable conditions for treatment. One of the most remarkable results which I obtained was a case in which a slight pulmonary lesion of the apex was complicated by a general tuberculous pleurisy. The separation of the two pleural surfaces at once cured the pleurisy and relieved marked constitutional symptoms. The more I have used the gas the more I have been tempted to use the injections in advanced and apparently hopeless cases. I find that it relieves the patient and stops many of the distressing symptoms. The only objection to its use that practical experience has taught me is that these injections cannot be made in many cases on account of the inability to force the nitrogen gas into the pleural cavity on account of the adhesions. My experience has been somewhat different from Dr. Murphy's in this respect. He has been able to inject into the pleural cavity of almost all his patients. In a number of cases apparently favourable for treatment, I have had to abandon the method on account of the adhesions. In no way except by practical test can we discover whether there are enough adhesions to make the method of treatment impracticable.

Analysis of cases injected.—(1) Total number of cases, eighteen. (2) For pulmonary hemorrhages, eight cases.

(3) For effect on lungs, ten cases. (4) Effects on hemorrhage: stopped at once. (5) Effect on lung condition: in the majority of cases the physical signs remained the same, except that râles diminished or disappeared. Only one case showed a marked improvement. Pleurisy was controlled at once. (6) Number of cases gained in weight, sixteen. (7) Number of cases lost in weight, none. (8) Average gain in weight per patient, seven and one-half pounds. Number of injections given, twenty-nine. (10) Average amount of gas injected, 107½ c.c. (11) Number of cases in which improvement was noted :—(*a*) Cough, thirteen cases ; three slightly and temporarily. (*b*) Expectoration, eleven cases. (*c*) Fever, four cases. (12) Number of cases during the past year in which the injections were tried and failed owing to the inability to introduce the gas (adhesions, &c.), eight.

Remarks on Treatment.—I am convinced that intrapleural injections of nitrogen gas will have a permanent place in the treatment of pulmonary tuberculosis. (1) It is a treatment that has a future ; I would advise its more extended use ; only in this way can we ascertain the kinds of cases to which it is best applied. (2) I have never seen any bad results or even unpleasant effects following the injections. (3) I have seen no cases result in absolute cure of the disease. (4) I have certainly seen the apparent arrest of the disease in two cases, and the disappearance of such constitutional symptoms as expectoration, fever and cough in a number more. Sufficient time has not yet elapsed to say whether, in even the most favourable cases, the activity of the disease may not return. (5) The local improvement is not so apparent as the constitutional. (6) A marked gain in weight is found in every case injected. This is so universal as to be astonishing, especially as the cases have had no other treatment and many of them have been in hospital wards and under anti-hygienic surroundings ; yet the gain in weight has followed almost immediately after injections, and when a patient has been losing weight before the injections, he suddenly began to gain. It is very difficult to explain this effect, except by the marked effect upon the pulmonary lesion. (7) That this method of treatment will stop pulmonary hemorrhages I am thoroughly convinced. I have never seen it fail, even in one of the most desperate cases upon which it was tried. If these nitrogen-gas injections have no other place in the treatment of pulmonary tuberculosis, it seems to me that their ability to arrest pulmonary hemorrhage gives them a place which no other method we have at the present time can occupy. —*Medical Record*, *September* 29, 1900.

49.—POST-OPERATIVE PULMONARY EMBOLISM SIMULATING PNEUMONIA.

By ALEX. MACLENNAN, M.B., C.M., L.M. (Rotunda),
Extra Dispensary Surgeon, Western Infirmary, Glasgow.

[The temperature, respiration, and pulse chart is omitted here.]

E.D., aged 42 years, was admitted to the Hospital for Women, Soho Square, to have a carcinomatous breast removed. On admission, patient had a slight degree of bronchitis, of recent origin. There was no expectoration. The breast, &c., was removed by Mr. Osborne (assistant surgeon), on September 23, 1897, ether being the anæsthetic employed. Next morning patient complained of pain in the left infrascapular region. The temperature was 99°·6 F., and the respirations were slightly increased in frequency. Physical examination of the chest gave negative results to palpation and percussion. The R.M. was normal. Friction sounds were, however, distinct over the seat of pain, and pneumonic crepitus was heard over the same small area. The bronchitic râles heard on admission were still present. In the evening the temperature rose to 100°·2 F.; the pain had subsided, and the patient expressed herself as much better. On the morning of the 25th the symptoms and physical signs led to a diagnosis of pneumonia being made. Dulness, increase of fremitus and resonance, with bronchial breathing, were present over the left base. Crepitus was absent, and the friction sounds were less distinct. In the right infrascapular region a little pain was complained of, but with the exception of a few moist, though fine, râles, the physical examination was negative. On the following day (26th) the subjective condition of the patient was the same; the highest temperature registered was 104°·8 F. The respirations were 38, and the pulse 140. Neither at this time nor subsequently was there any expectoration. Later on the temperature fell to 101° F., respirations to 30, and pulse to 115. The patient passed a good night, and the temperature continued to decline On the morning of the 27th the temperature rose to 103°·8 F., respirations to 40, and the pulse to 130. Physical examination revealed increase in the area of dulness upwards, the other local signs remaining the same. Towards evening the woman became restless, and slight delirium was noticed; she had a bad night. On the 28th examination of the urine with silver nitrate solution gave only a turbidity. In the evening the patient was acutely maniacal, and later on coma supervened. At 12.5 a.m. on the 29th she died. The post mortem examination revealed the cause of death to have been embolism of the lung. There were no signs of sepsis, and the wound was healing well. In some of the branches of the axillary vein were evident signs of ante-mortem thrombosis. Numerous hemorrhagic infarctions existed in both lungs, but especially in the left. A partially discoloured infarct, about the size of a large chestnut, existed in the lower lobe of the left lung, and was surrounded by a large area of pneumonic consolidation. The actual embolism was not found. The pleura was slightly adherent over this area. The brain was not examined. There was nothing remarkable in the other organs.

Remarks.—Surgical pulmonary embolism dissociated from sepsis is very rare. The symptoms and course of this case were somewhat peculiar, and are perhaps of some general interest. Embolism, which does not cause sudden death, is unassociated with such well-marked physical signs. The absence of chlorides from the urine was also remarkable. Pneumonia more commonly follows ether anæsthesia, in removal of the breast, than from any other operation. Probably this is accounted for by the long exposure of the chest as a whole, and that part of it in particular from which the protecting breast is removed. Embolism, causing sudden death after labour, is not of such rare occurrence. Bruns has collected a series of thirty-five cases of pulmonary embolism following fractures, thirty of which were fatal; sudden death taking place from the fourth to the seventy-second day. Agnew, in referring to this subject in his work, affirms that post-operative embolism is due to loss of blood, whereby the remaining blood becomes more readily coagulated. He warns against allowing patients to move, especially sitting up, after operation. This patient was dressed on the second day previous to the onset of symptoms. Clarke mentions that the condition is rightly regarded as being a somewhat rare one in surgical cases. Literature on this subject is very scanty, and in all probability the fatal cases on record do not represent the full number of deaths from this cause.—*Edinburgh Medical Journal*, *November*, 1900.

DISEASES OF THE ORGANS OF DIGESTION.

50.—THE HOT BATH IN ABDOMINAL DIAGNOSIS.

By GEORGE DOCK, M.D.

The value of inspection, in a good light, and with the patient in proper position, in many local diseases of the abdominal organs, and in certain diseases associated with eruptions or other alterations of the skin is well known. The importance of palpation is also recognised. But even with the greatest care and skill, with the patient in a good position, the abdominal wall relaxed, the hands applied without any marked pressure from the finger-tips, and the examiner standing or sitting in such a position that he has complete control of his work, in some cases the results are unsatisfactory. This may be due to rigidity of the abdominal wall from disease, or unusual irritation of the muscles without local disease, or sometimes simply to the thickness and healthy resistance of the abdominal wall. In such cases, where the suspicion of abdominal disease is strong, the patient is sometimes anæsthetised for the purpose of completely relaxing the tissues, but the hot bath is not only a safer but a superior method. The advantages of the hot bath are :—In the first place, less risk—although it must rarely happen that serious or dangerous accidents occur from anæsthesia given for diagnostic purposes, yet there is a theoretical danger that can never be lost sight of. In the second place, the method is less disagreeable, the slight discomfort from being immersed in very hot water not comparing with that from inhaling the anæsthetic. In the third place, there is great advantage in having complete control over the patient's respiration, and in this way calling into play the powerful action of the diaphragm. The only difficulty about the method is that it requires a bath and a sufficient quantity of hot water, and also, in cold weather, requires gradual cooling before the patient can go out of doors. In order to use the bath, the tub should be long enough for the patient to lie almost flat. This is not absolutely necessary, for in a short tub we can get along by having the patient draw up the knees. Nor is it necessary to have the patient suspended in a support, although in some cases this may be pleasanter for the patient and easier for the operator. In using the hot bath the patient gets into a tub almost full of water at about 100° F., and the temperature is then rapidly raised by pouring in very hot water until it reaches at least 110° F. In many cases complete relaxation will be obtained in five or ten minutes at this temperature, but in other cases it may be necessary to raise the temperature as high as 120° F. As the water cools rapidly, hot water must be on hand for keeping up the desired temperature in cases of prolonged examination. The amount of relaxation obtained varies much in different cases, but is always sufficient to enable one to feel many things otherwise impossible. [The author then gives details of two cases, in one of which the patient was supposed to have an abdominal tumour. In a hot bath this supposition was proved to be wrong. In the other case a mass was felt in the right iliac fossa which was previously impalpable.] —*From abstract in Therapeutic Gazette*, *September* 15, 1900.

51.—THE CHEMICAL EXAMINATION OF GASTRIC CONTENTS.

By FRANK SHUFFLEBOTHAM, M.A., M.B., B.C. Cantab.

[The following are Dr. Shufflebotham's remarks upon the quantitative analysis of gastric contents :]

The object of a quantitative analysis is to determine in the first place the amount of hydrochloric acid present, either free or combined with proteids, and in the second place the amount of organic acids, which will indicate whether fermentative changes are taking place in the organ or not. We should first estimate the total acidity of the filtrate from the stomach contents. Twenty cubic centimetres are a convenient quantity to use for titration. If it be colourless or pale yellow, as it often is, there is no need for dilution, but should the filtrate be of a dark colour, it will be necessary to add water until the tint has almost disappeared. A saturated alcoholic solution of phenol-phthalein is the best indicator to use, and two or three drops are ample for any titration. The advantages of phenol-phthalein over litmus are that the colour-change at the critical point is so definite as to be easily appreciated even by the uneducated eye, and, secondly, that the operation can be carried out in the cold, and boiling is not, as in the case of litmus, necessary to ensure an accurate result. A decinormal solution of sodium hydrate is the alkali against which the acid is titrated. The result is best expressed in terms of hydrochloric acid. For instance, suppose 10 cubic centimetres of decinormal solution of sodium hydrate be required to neutralise 20 cubic centimetres of the gastric contents (1 cubic centimetre of decinormal sodium hydrate solution being equivalent to 0·00365 gramme of hydrochloric acid) the total acidity of 20 cubic centimetres of gastric contents is equivalent to 0·0365 gramme of hydrochloric acid, or the total acidity of 100 cubic centimetres of stomach contents to 0·182 gramme of hydrochloric acid. This is the most convenient way of expressing the acidity, and it is the one generally adopted by investigators on the subject. It should be borne in mind that this is not to say that the acidity is 0·182 per cent.

The presence of free hydrochloric acid not being necessary for the digestive process, our method of estimating this acid should be so chosen as to take account of that part of the acid which is physiologically effective—that is to say, the part which is combined with the proteids—albumens, albumoses, and peptones—found in the stomach contents. It is mainly due to the investigations of Berthelot that we are enabled to separate the organic acids from free hydrochloric acid and hydrochlor-proteids, and to estimate each in an accurate manner. Berthelot found that on shaking an aqueous solution of any organic acid with ether, and allowing the two fluids to separate, part of the acid passes into the ether, while the remainder clings to the water. The ratio between these two parts he proved to be a constant quantity—the co-efficient of partage—the value of which is a fixed characteristic for each particular acid. All organic acids behave in this way to a considerable, though variable, extent. Inorganic acids when agitated with ether are not thus affected.

It is generally believed that ether will not extract all the lactic acid found in the gastric contents, but by performing the estimation in the manner which I am about to describe, a determination can be obtained which possesses sufficient accuracy to serve every clinical purpose. Twenty cubic centimetres of filtered stomach contents are placed in a stoppered cylinder, and thirty cubic centimetres of ether are added. The cylinder should then be shaken vigorously for twenty minutes. Then it should be placed away for several hours, or it may be left all night, after which the shaking process should be repeated for another twenty minutes. This mode of procedure is very efficacious in removing the lactic acid. In some experiments which I have performed I added a known quantity of a standard solution of lactic acid to some specimens of vomit, and after treating them in the manner indicated above, the yield was never less than 90 per cent. of the acid which had been added. Similar results were also obtained when I added the lactic acid to hydrochlor-albumen which I had artificially prepared. Again, in many determinations which I have made I have extracted with ether four or five times, but if the above course were adopted for obtaining the first extract, no trace of lactic acid could be found in the subsequent extracts.

The ethereal extract is drawn out of the cylinder by means of a pipette, and placed in a porcelain dish along with a little distilled water. The ether is evaporated over a water bath, and the lactic acid passes into the distilled water, and can be titrated with a decinormal solution of sodium hydrate, phenol-phthalein being used as the indicator. This gives the amount of free lactic acid. What remains in the cylinder should be gently boiled for a few moments to drive off whatever acetic or butyric acid be present, and then titrated in the same way. This will yield the total amount of physiologically-effective hydrochloric acid. Both these results are best expressed in terms of hydrochloric acid, so that an easy comparison may be made with this acid. If the sum of lactic and combined hydrochloric acids be the same as the total acidity, we may assume that acetic and butyric acids are absent. A quantitative estimation of these two volatile acids can be obtained by distilling a known volume of gastric contents and titrating the distillate with a standard alkali.—*The Lancet, September* 15, 1900.

52.—HYPERCHLORHYDRIA.

By Dr. MAX EINHORN,
Professor in the New York Post Graduate School
and Hospital.

[From report of Dr. Max Einhorn's paper :]

At one time it had been considered proper to treat almost all cases of dyspepsia by giving hydrochloric acid, under the supposition that the gastric juice was always deficient, but later observation had shown that sometimes the secretion of hydrochloric acid in these cases was actually greater than normal. Still later it had been discovered that digestion sometimes went on in the stomach when it should not do so, *i.e.*, when the stomach was empty. The present paper dealt only with those cases in which there was excessive acidity. According to his own experience, more than half of the cases of impaired stomach digestion were examples of hyperchlorhydria.

Symptomatology.—Persons suffering from hyperchlorhydria were usually well nourished, and complained of uncomfortable sensations about one hour after meals. Some of them felt well except after their heaviest meal. Some complained of a burning sensation in the pit of the stomach, or sometimes of water brash. A smaller group complained not only of water brash but of slight regurgitation of food. The burning sensation might be present along the course of the œsophagus rather than in the stomach alone. These were the common symptoms, but they did not include all. Some of these patients complained of dizziness, or of a feeling of apprehension, or of severe headache, coming on perhaps without any distress in the stomach, at about the same time after taking food. In the more exceptional cases the symptoms might be vague, and might even simulate to some extent those of angina pectoris. A characteristic feature of all these different types of cases was that they experienced relief with the ingestion of food, and about 90 per cent. of the cases exhibiting these symptoms would be found to be instances of hyperchlorhydria. The appetite was usually good, and sometimes a hungry feeling was experienced about one hour after meals. Thirst was not increased. About two-thirds of these patients suffered from an obstinate constipation which was dependent upon an abnormal condition of the stomach. Sometimes there was a diarrhœa of similar origin, and the fact that it arose in this way was well shown by the ease with which it was controlled by the administration of an alkali. He was of the opinion that if the symptoms were reasonably distinct no examination of the gastric contents was demanded, but the fact should not be lost sight of that hyperchlorhydria sometimes existed without giving rise to the usual symptoms.

Etiology.—As had been already stated, the disease was especially common among those subjected to much mental worry or anxiety, such as men in active business, or ladies too much occupied with social functions. Tobacco and alcohol were also prominent factors. As ulcer of the stomach was quite commonly associated with hyperchlorhydria, some had supposed that it was a cause of this affection. This could hardly be the case, because it was well-known that gastric ulcers developed in cases not exhibiting hyperchlorhydria. Probably all that could be said on this point was, that hyperchlorhydria made it easy for such ulcers to develop. When these conditions coexisted, it might be impossible correctly to diagnose the presence of the ulcer except by the persistence of the symptoms in spite of appropriate treatment.

Treatment.—As a rule, cases of hyperchlorhydria responded promptly to treatment. Some physicians excluded all starchy foods for the reason that the excessive acidity interfered with the digestive action. He did not indorse this plan, and believed that most physicians had given up exclusive diets in these cases. As it had been found that an exclusive diet of meat stimulated and increased the flow of gastric juice, it had been recommended to exclude meats. His own practice was to try and strike the happy medium between these extremes, believing that exclusive diets were harmful. The diet which he usually arranged for those suffering from hyperchlorhydria comprised tender meats, not too highly seasoned, plenty of milk, water, and sugar. He directed that they should avoid acids, and should restrict the quantity of the starchy foods, particularly potatoes. The great point, after all, was to make them take their food in small quantities and at shorter intervals. These frequent meals in themselves gave relief, as the ingestion of food took up the acid, forming with it an acid albumen. Recent experiments seemed to show that sugar, as such, tended to diminish the acidity. Fats, especially butter, also decreased the acidity. The medicinal treatment consisted in administering alkalies at the time of maximum acidity, *i.e.*, about two hours after meals. One or two teaspoonfuls of bicarbonate of sodium would be found useful for this purpose, or, if the patients were constipated, bicarbonate of sodium and calcined magnesia, or rhubarb, soda, and magnesia, could be administered with advantage. He had also found the greatest benefit from the use of the bromides. Washing out of the stomach was not essential in these cases because there was no impairment of the motor function of this organ. The internal application to the stomach of either the faradic or the galvanic current would be found beneficial, as would also spraying into the stomach a solution of nitrate of silver.—*Medical Record, June* 2, 1900.

53.—ACHLORHYDRIA: ITS EFFECTS AND THEIR TREATMENT.

By H. F. HEWES, M.D., Boston.

Of 250 cases of disorder of the stomach which I have treated during the last few years, the condition of achlorhydria was present as a constant condition investigated by several analyses at considerable periods of time in 15. Of these cases six were cases of simple chronic gastritis, four cases of gastritis with carcinoma of the stomach, one achylia gastrica, three cases in which the achlorhydria was the only abnormal objective sign. The importance of the recognition of this condition arises from the fact that it may itself, regardless of the nature of the organic lesion of the body with which it may be associated, be a cause of special definite disturbances in the process of digestion, and thus a special treatment directed to remedying its effects is necessary in cases where it exists. The results of this absence of hydrochloric acid in the stomach are (1) an absence of peptic digestion; (2) an increase of bacterial fermentation in the stomach and intestine. Where the motility of the stomach is undisturbed, as is not infrequently the case with achlorhydria, the absence of peptic digestion is of little or no effect upon the organism, since the intestine can perform this function of proteid digestion. Our first aim in the treatment of this condition is, therefore, the preservation or adjustment of the motor function of the stomach. The proteid diet must be in such a form and given in such a manner that it can be easily passed through the stomach, the starches with the cellulose envelope broken so that salivary digestion may occur freely in the stomach.

In some of my cases the achlorhydria has existed for years, and it is only when the motility of the stomach becomes affected that the patients have symptoms of stomach trouble and come for treatment. A proper regulation of the diet, with a regimen of rest after meals, and regular out-of-door exercise and exercise of the abdominal muscles, with strychnia or hydrochloric acid and strychnia given internally, soon causes in these, as well as in the more numerous cases of hypochlorhydria, a relief of symptoms, and presumably a readjustment of function. The device of supplying the hydrochloric acid for peptic digestion by administration of the artificial acid, often useful in cases of hypochlorhydria where the deficiency of acid is slight, cannot be utilised with success in achlorhydria, as it would be necessary to use excessive amounts of the acid—a quart of dilute hydrochloric acid, for instance, with a meal. That an abnormal fermentation occurs when the stomach contents lack their normal antiseptic, the hydrochloric acid, has been definitely proven by Dubarry, Bunge, Simon and others. This causes little or no effect in the stomach or intestine where the motility is normal, although the quantity of bacteria or fermentative products which are passed into the intestine and the fermentation which occurs there are increased over normal even in these cases.

In cases where motility is affected, a considerable amount of fermentative products is formed, causing frequently disturbance of both stomach and intestine. In these cases marked symptoms of intoxication and of intestinal sepsis, as drowsiness, urticaria (?), intestinal flatulency, diarrhœa, may occur. The treatment of this second result is, therefore, like that of the first, primarily the adjustment of the motility of the stomach. Where this function is intact, antiseptics destined to act in the stomach (salicylic acid, resorcin, or large quantities of HCl given frequently throughout digestion), or in the intestine (salol) may be useful in limiting fermentation. In cases where intestinal sepsis is suggested by symptoms, the antiseptic treatment must be applied, and foods which do not easily undergo fermentation must be given.

The presence of achlorhydria can be determined by a simple method of analysis of the contents. A qualitative test for free HCl determines whether or not we are dealing with a marked condition of hypochlorhydria. A further qualitative test of the contents for the presence of combined HCl determines whether we are dealing with a simple diminution of HCl (hypochlorhydria) or a total absence (achlorhydria). As I have demonstrated by an extended study of cases of stomach disorders, the subjective symptoms are no index of the nature of the chemical abnormality present in three-fourths of our cases, cases of hypoacidity and hyperacidity frequently having similar symptomatologies. The diagnosis of achlorhydria can be made therefore only by analyses of the gastric contents. And these analyses should be made at various periods of digestion, and upon several occasions extending over a considerable period of time. Once diagnosed, the treatment of the results of the condition is very satisfactory.—*Boston Medical and Surgical Journal*, *November* 1, 1900.

54.—ACUTE GASTRIC ULCERATION.

By Dr. G. Dieulafoy,
Professor of the Faculty of Medicine, Paris.

The stomach may be the seat of ulcerations varying greatly in dimensions, ranging from erosions no bigger than a pin-prick to lesions as large as the palm of the hand. By acute gastric ulceration we mean those forms of ulceration of the stomach which, in a few days, give rise to lesions and symptoms which clearly differentiate them from ordinary ulcerations. The acute form (hemorrhagic necrosis) is, with but few exceptions, the result of toxic infection. Tuberculous erosion of the stomach is a type of degeneration arising from infection. It is manifested in the course of pneumonia, or diffuse tuberculosis, by copious hæmatemesis, much dark blood, coffee grounds being counted. In a case which came under my observation, hemorrhage supervened a few hours later, and the patient succumbed after the third attack of hemorrhage on the twelfth day after infection. The post-mortem examination revealed a large number of hemorrhagic erosions in the mucous membrane of the stomach, no larger than pin-pricks. Under the microscope, these erosions, which involved the whole thickness of the mucous membrane as far as the *muscularis mucosæ*, had a base necrosed glandular tissue undergoing elimination. There were also numerous colonies of pneumococci, not only around the erosions, but invading the adjacent tissues. It was a typical case of acute gastric ulceration characterised by very rapid progress of the disease and the presence of the pathogenic infectious agent. These gastric erosions by pneumococci can be experimentally induced. Apart from these acute tuberculous gastric erosions there are other forms of ulceration associated with appendicitis and strangulated hernia. The toxicity of appendicitis is manifested by the appearance of urobilinuria. But the poisonous action is sometimes more generalised, the appendical intoxication involving the nervous system, and giving rise to symptoms of delirium, epilepsy, meningitis or coma. When the toxic-infection involves the stomach, the hæmatemesis may be very abundant. When patients suffering from jaundice are thus attacked, there is a certain resemblance to the vomiting of yellow fever, and so I have called this condition *vomito negro appendicularis.* The hæmatemesis is undoubtedly due to the erosion of the stomach, as I was recently enabled to demonstrate at a post-mortem of a patient who died from strangulated hernia, notwithstanding a successful operation, with all the symptoms of hernial intoxication, icterus, albuminuria, and persistent hæmatemesis. The erosion had attacked one of the small arterioles which run beneath the *muscularis mucosæ.*

In many cases the cause of the acute ulceration of the stomach remains obscure. It is this variety to which I have given the name *exulceratis simplex*, which stands in the same relationship to acute ulceration of the stomach as does *ulcus simplex* to chronic ulceration. It is generally met with in young persons, who have no history of gastric or dyspeptic troubles, and are apparently free from any lesions of the stomach. They are suddenly seized with vertigo, nausea, pains in the stomach, followed very soon by vomiting of blood (either liquid or coagulated), sometimes mixed with food. This vomiting of blood is repeated frequently, leading to extreme anæmia, the proportion of red corpuscles falling to 1,200,000 or under. The symptoms as a whole are those of an acute disease; the mucous membrane is destroyed, along with the *muscularis mucosæ*, and ultimately one of the subjacent arterioles is attacked. This vomiting, which is often the only symptom of the ulceration, must at first be combatted by medical treatment: abstention from food, complete rest for the stomach, followed by rectal injections of a weak solution of lactose (15 grammes of lactose to 200 of water), administered four times a day, and the free injection of normal serum, to which 0·5 centigrammes of benzoate of caffeine may be added. If the vomiting, owing to its abundance or persistency, threatens the life of the patient, surgical intervention is necessary, a ligature being applied over the seat of the ulceration, by which means I saved one of my patients. Although in the majority of cases vomiting is the dominant, if not the sole symptom of acute ulceration of the stomach, occasionally, especially as a result of extensive burns of the integument, actual perforation of the stomach or intestines may result.

Chronic ulceration of the stomach is represented by Cruveilhier's *ulcus simplex*. Though differing widely both clinically and anatomically, all the types are liable to two serious complications—perforation and hyper-acute peritonitis —the latter being relatively frequent when protective adhesions do not limit their powers for evil. The more we study these lesions, the more evident it becomes that cancerous degeneration of the ulcers frequently supervenes, either during ulceration or after healing.

Syphilitic ulceration should not be overlooked. It is important to diagnose the disease promptly. Thus, one of my patients with a syphilitic history suffered from an ulcer of the stomach, presenting all the classic symptoms, but which resisted for fifteen months the ordinary treatment for *ulcus simplex*, and only disappeared after a fortnight's treatment consisting of an injection of biniodide of mercury.—*Medical Press and Circular*, *August* 22, 1900.

55.—TREATMENT OF GASTRIC ULCER.

By Joseph Frank Payne, M.D., F.R.C.P.,
Consulting Physician to St. Thomas's Hospital.

[From Dr. Payne's paper on "The Problems of Gastric Ulcer," read before the British Medical Association Meeting, 1900 :]

In acute cases, when profuse hemorrhage is the marked symptom, the principles of treatment are clear enough. We want to give the injured organ the most complete physiological and mechanical rest. Beside perfect quiet and inactivity, we have to put the functions of the stomach, if possible, into complete abeyance for as long as possible. The only absolute method of doing this is to withhold all food by the mouth and sustain the strength as far as possible by rectal feeding. Theoretical objections may be made against the possibility of absorption of food by the rectum. I remember the time when experienced physicians were extremely sceptical on this point. But experience has shown that life may be sustained by this method of feeding, though it is, after all, but a slow starvation. I believe that a great step has been made by the introduction of peptonised foods. It is probable that milk alone is hardly absorbed by the rectum, and beef-tea, which was formerly given, we now know hardly deserves the name of a food. Eggs, whether it is the yolk or the albumen that is absorbed, appear to give better results. But I have come in the end to trust almost entirely to peptonised foods.

The general principles and methods of rectal feeding are too well known to need discussion. The chief points appeared to me to be to consider how long a patient can be nourished by this means, and by what method, if any, the possible period may be prolonged. It is usual to interdict not only food of any kind, but even water by the mouth ; and to try and relieve the sensation of thirst by giving the patient small lumps of ice, as recommended in every text-book. I maintain, on the other hand, that water, given in small quantities by the mouth, is not only not injurious, but decidedly advantageous. To begin with, ice does not really relieve thirst, as we may know by experience, and the quantity of water represented by a little lump of ice is absurdly small. Moreover, the patient who drinks water is able to support life under rectal feeding much longer than without. This is shown both by analogy and by direct experience. Rectal feeding, I have said, is but a slow starvation. Now, nothing is more certainly established than that we are able to support starvation much longer with water than without. Men have been known to live without food, but, with access to water, for a much longer time than is required for rectal feeding as a therapeutic measure.

We find that rectal feeding for one week without water is a severe strain upon the bodily strength. Some patients cannot even bear it as long as this. But if they are allowed to sip water in moderation, I find that they can bear a fortnight's rectal feeding without more inconvenience than most patients find after one week without water. The danger in rectal feeding is not emaciation or want of nutrition generally, but failure of the heart. During this process, or at least in the second week, great care is required to avoid this accident. The patient must not be allowed to sit up, especially suddenly, nor to move for any purpose. With these precautions, and allowing water by the mouth, I have often prolonged rectal feeding for a fortnight or longer. We must not forget that the mere act of swallowing has been shown to be a stimulus to the heart. Of course we know that water may be absorbed by the rectum, but giving it by the mouth has this advantage among others. I propose, therefore, as one of the problems of gastric ulcer, whether taking water by the mouth should be forbidden during rectal feeding. There is one small point in connection with rectal feeding to which I should like to direct attention, namely the occurrence of acetonuria, that is, the presence of diacetic acid or acetone in the urine. We know that this occurs not only in diabetes, but in various diseases of the digestive system. The largest amount of acetone I ever found in the urine was in a case of extreme alcoholic dyspepsia. It has also been recorded in cases of gastric ulcer, but I do not happen to have observed it, except when the patient was under rectal feeding or under an extremely restricted diet. In many of my cases the observations were made by my then house-physician, Dr. Dixon, now well known as a physiological investigator, and some were carefully analysed in the hospital laboratory. Under these circumstances, the conditions can hardly be due to perverted gastric digestion since the stomach is not digesting at all. I have therefore regarded it as the result of starvation, since it is known that acetonuria has been produced by artificial deprivation of food in animals ; and in extreme alcoholism, as in diabetes, the condition is one of virtual starvation. Further observation will show whether this explanation is mistaken. I, therefore, propose as a minor problem connected with gastric ulcer whether acetonuria is due not to the disease itself, but to rectal feeding or extreme restriction of diet.

About drugs in the treatment of gastric ulcer I have no time to say much. The most useful appear to be salts of bismuth, and next nitrate of silver. Their action is, of course, entirely local, and their suitability appears to depend upon the fact that they are not absorbed (or, in the case of silver, very slowly), and therefore, unlike salts of zinc and lead, the local action of which is the same or stronger, they do not produce vomiting or any general toxic effect. The results of treatment are certainly encouraging. The large number of cases with severe hemorrhage and other serious symptoms which recover is satisfactory evidence of the success of treatment before perforation has occurred. When this terrible accident has actually occurred, we know of no method which gives any chance except an operation and suturing the perforation with surgical precautions, which I need not dwell upon. We have had some very successful operations of this kind at St. Thomas's, and others which, notwithstanding the greatest care and skill, were unsuccessful. I refrain from trying to state the results, because I could not give them completely, and an incomplete summary would be misleading. The amount of success which has been obtained leads one to ask the question whether operative measures may not some day be applied to ulcers where perforation has not occurred, and the very probable fatal termination thus warded off.—*British Medical Journal, September* 29, 1900.

56.—THE DIAGNOSIS OF CANCER OF THE STOMACH.

By JOHN C. HEMMETER, M.D.,
Baltimore; Professor in the Medical Department of the University of Maryland.

[From Dr. Hemmeter's paper:]

The most important information from all the physical signs and symptoms, and from the chemical and microscopical investigations, may be arranged in order of their diagnostic value as follows (but I do not desire to be dogmatic in this statement): (1) Chronic gastritis or nervous dyspepsia with progressive aggravation in spite of proper treatment. (2) Progressive weakening of the peristaltic power. This can only be confused with the benign stenosis of the pylorus, but in the latter case (the benign stenosis) there is always a normal or an excessive amount of hydrochloric acid. In malignant stenosis there is absence of hydrochloric acid and formation of lactic acid. The diagnosis between benign and malignant stenosis may be difficult at the beginning of the clinical observation of any case, but after two to four weeks of observation should present no difficulties. (3) Progressive diminution in the amount of free hydrochloric acid with steady loss of peristaltic power. (4) Persistent absence of free hydrochloric acid and the presence of abundant atypic and asymmetric mitoses after gastric curage, together with other signs of inflammation. (*Philadelphia Med. Journ.*, February 3, 1900.)

With such clinical indications exploratory laparotomy should be undertaken, and where this step proved the diagnosis to be wrong, in my experience, it was discovered that conditions were present which necessitated operative interference anyway, such as, for instance, motor insufficiency from cicatrices, indurated ulcers, or adhesions. In this scheme the diagnostic value of the Oppler-Boas bacilli, tumour, lactic acid, are not referred to, because they are late signs. I do not wish to be understood, however, that a surgical operation should not be undertaken when these late signs are present. Many times even the presence of a tumour is not a contraindication to an operation, because a malignant tumour in the stomach may be present, as I have noted on three occasions, and no signs of metastases or infection of the lymph glands discoverable by a careful search at the autopsy.

The diagnosis of carcinoma of the stomach is still in its elementary rudiments. We do not know what the causes and nature of malignant neoplasms are. The diagnosis of any disease under such conditions must be difficult. We must bear in mind that the diagnosis on neoplasms on the surface of the body in their early stages presents considerable difficulty, and in case of the stomach we are required to diagnose these new growths in an organ entirely hidden from view and almost entirely from touch. With a knowledge of the nature and cause of the disease will come a knowledge of its early recognition and its successful treatment. Think of the condition of the diagnosis of diphtheria and tuberculosis before the cause of these diseases was understood. But from many sides and in many countries dutiful labourers are working towards the common goal of the cause of this human scourge. Then will come the time where the malignant neoplasm will melt away under the influence of a new treatment, similarly as the pseudo-membrane disappears in diphtheria after the injection of antitoxin. There is some reason to believe that not all malignant neoplasms have the same etiology, and therefore will probably not have the same treatment. Recent personal studies have led me to incline to the view that in some carcinomas, at least, we are dealing with a deep-seated disturbance of the innermost metabolism of the individual cells, and that whatever bacteriologic findings can be made in such growths are of secondary importance or accidental accompaniments. The further development of the subject depends, in my opinion, not so much on bacteriologic investigation as upon the pathologic and physiologic chemistry of the cell ; though the problem as yet presents great difficulties, still they do not seem unsurmountable, even with the means at present at the disposal of the physiologic chemist.

The inevitable recurrence of carcinoma after operation of gastric malignant neoplasm should impress us with the fact that surgical operation cannot be the treatment of the future for such diseases. The impression is spreading that gastric surgery can, after all, only bring symptomatic relief, and, according to the classical testimony of Mikulicz (Chirurgischer Congress, 1896), gastric surgery, after a career boldly and brilliantly begun, has arrived at the height of its capability for technical development after twenty years, and now stands arrested before the natural boundaries of internal medicine, the fundamental pillars of pathology. It does not appeal to reason to assume that this form of treatment, by operation only, although it is at present the most satisfactory and promising that we possess, represents the limit of human knowledge and ingenuity. The Löffler, Behring, Pasteur, Koch, and Virchow of the future will solve this riddle for us, and the obscurity about malignant neoplasms must vanish before human intellect, and then will come an effective treatment based upon the etiology of the disease.—*Annals of Surgery*, *July*, 1900.

57.—NOTES ON A CASE OF GASTRIC TETANY.

By J. CHRISTIAN SIMPSON, M.D.

[The following is taken from Dr. Simpson's paper, which touches upon many points of interest :]

Kussmaul was the first to associate tetany with gastrectasis in 1869, and latterly it has been observed more particularly—92 per cent., according to Fenwick—in those who have pyloric or duodenal disease rather than a primary affection of other parts of the stomach. Well-marked cases have also been recorded after severe vomiting, which was not dependent, however, on either gastrectasis or other ulcerated condition. One of the most striking features of gastric tetany is its mortality, which has been placed at 75 per cent. by some, and Frankl-Hochwart had only one recovery in eleven cases of the more serious type. This large mortality occurs in cases where there is "a more or less generalised" distribution of the twitching and tremor, and where there are "clonic as well as tonic convulsions resembling epilepsy." The exciting cause is most probably a chemical poison which has a direct action on the nervous system. Bouveret and Devic were of opinion that this toxic substance was the result of the action of alcohol on the product of free hydrochloric acid on syntonin, and that tetany occurred in cases where there is a hypersecretion of free H.Cl. If this be so, the administration of alcohol in such cases must be carefully reconsidered. The fact that neurotoxins may be developed in a dilated stomach is also evident by the occurrence of multiple neuritis as recorded by Carr.

Case.—Miss K. A., aged 65 years, appeared to have been in good health until twenty years ago, when she strained herself, fainted, and had hæmatemesis. After that she was never as stout as before. About 1890 she had another attack of hæmatemesis, and shortly after this began to vomit at odd times. During 1893 she vomited every day or night, and the vomit appears to have been then typical of gastrectasis. More than two years before her death there was another attack of hæmatemesis, which left her very weak for a long time. In July, 1898, I saw her for the first time, and from the appearance of the vomit and the physical examination there was no doubt about the diagnosis of dilated stomach. She left for a holiday immediately after, and I did not see her again until she returned in the beginning of October. On October 8 there were distinct evidences of tetany. The vomiting was about as usual, there being no marked increase, as is sometimes the percursor of the nervous symptoms, but she had had a tiring journey. As regards the tremors and twitchings, it may suffice to say that at one time the hands and arms were unable to hold anything, the head jerked about, and the lower extremities were also affected. The stomach was washed out repeatedly, and this did not aggravate the nervous symptoms, as has been occasionally reported, though perhaps only as a coincidence. To some extent, indeed, she improved, but on October 13 the patient became semi-comatose, and was jerking violently all over. I accordingly transfused about thirty ounces of simple saline solution into a brachial vein, and next day the beneficial effect was marked, and she remained in a very much better condition for some time. During the next few weeks she was frequently washed out, and the tremors and jerking almost disappeared. On November 23 there was a very severe attack of hæmatemesis, and the anæmia was so great that I began a series of subcutaneous saline injections into various regions. The solution was ·75 per cent. of sodium chloride in distilled water, and a pint or more was injected at a time. During her illness she was injected eighteen times, and on no occasion was anything but benefit derived. Strength was regained to some extent, but nourishment was a very difficult matter, as the rectum was unusually irritable and resented much feeding. In February, 1899, she became quite unbalanced mentally, and remained so for several weeks, but ultimately resumed her usual state. This is an extremely rare complication of tetany, and it is possible that it was due rather to the anæmia and starvation than to the tetany, which was not much in evidence then. As the injections of saline were so satisfactory, I was anxious to try if a food could not be similarly used, and through the kindness of Dr. Cobbett I had some trebly-sterilised milk on trial. About four ounces was subcutaneously injected, but in five or six hours there was a severe rigor, and subsequently universal urticaria developed and persisted for thirty-six hours. Evidently the serum toxins are not so easily destroyed as was supposed. No suppuration took place at the site of injection. Shortly after it was found that sterilised oil was more readily absorbed and was practically painless. Rectal saline and oil injections were also used at various times, but could not be depended on for long continuously. Up to Easter, 1899, the patient really gained ground, and was able to be up in a chair for some hours, and, if anything, there was a fine deposit of fat in parts. The time now seemed near for seriously entertaining an operation, and it had been almost settled, when suddenly, without any apparent reason, she lost all the ground gained, and tetany recurred. Subcutaneous saline injection was at once given, and venous transfusion also performed ; these revived her somewhat, and diminished the spasm. To save the little preliminary operation for venous transfusion, I found it practicable to plunge a fair-sized sharp canula directly into a distended vein. Coma gradually became more marked, however ; several violent epileptiform convulsions occurred, and she died on April 24, 1899. At the post-mortem examination no malignant disease was found. About an inch and a half beyond the pylorus there was a sudden contraction of the lumen of the duodenum, which barely allowed a small quill to pass. This was probably the result of a duodenal ulcer, which had been the source of so many hemorrhages.

As regards the treatment of such nervous complication, very little benefit can be expected from oral or rectal administration of nervine sedatives or thyroid preparations, and inhalations of chloroform have not proved remedial. If the active cause be auto-intoxication, this must be dealt with in two direct ways: first, to remove the gastric, and if possible the intestinal contents; and secondly, to flush the toxins out of the blood and lymph by saline transfusion in one way or another. A secondary point in favour of the saline treatment is the relief it gives to thirst. After the acute symptoms have been alleviated, comes the question of operation as a preventive of further attacks, by curing or relieving the local gastric condition which allows the auto-intoxication to be carried on.—*The Practitioner*, *p.* 283, 1900.

58.—THE DIETETIC TREATMENT OF ZYMOTIC ENTERITIS.

By F. Percy Elliott, M.B., C.M. Aberd.,
Medical Officer to the Walthamstow Dispensary.

It will, I think, be conceded by all familiar with epidemics of zymotic enteritis (so-called summer diarrhœa) that, with the exception of human milk, milk food of any description is, in the majority of cases, badly borne during the early part of the disease. This is especially so when fresh cow's milk (previously boiled) is employed. No matter in what way prepared, whether specially sterilised or peptonised and given weak, it frequently disagrees. Condensed milk, simple or peptonised, will often be found to agree when fresh cow's milk does not; still, in a good number of cases it also is badly tolerated. At the onset of the disease it is absolutely necessary to stop giving milk food. Unless milk is completely excluded from the diet, the disease will certainly get worse. When vomiting is severe, food of any kind by mouth should be prohibited for a period of 24 to 48 hours. It is best to let the stomach have complete rest so far as is possible. If exhaustion is extreme, stimulants will be required and should be given in full doses, administering them per rectum if necessary. It is a good plan in those cases where collapse is marked to give an enema composed of two or three teaspoonfuls of stimulant (brandy or whisky) and one or two ounces of beef tea. When sickness has largely abated, half a teaspoonful of Brand's meat essence, or half to one teaspoonful of a mixture of ten to twenty parts of boiled water and one of Valentine's meat juice, may be given every hour or two by mouth. Bovinine is also a useful preparation here. When any of these are retained satisfactorily, the bulk of food may be gradually increased and given at longer intervals.

That food must only be given in small and oft-repeated quantities is a *sine quâ non* in treating the disease at this stage. Where vomiting is not urgent, boiled water or barley water should be given freely, especially if the diarrhœa is excessive, in order to rinse out the gastro-intestinal tract and to supply a part of the fluid lost. Barley water, on account of its soothing effect on the alimentary mucosa, is perhaps preferable to simple boiled water ; barley water contains a slight amount of nourishment also, and appeals more to the parents and friends. Lime water sometimes answers better than either of the above, as from its sedative and astringent properties it is more likely to relieve vomiting and diarrhœa ; its power over barley water in this disease is not as great as one would expect, however. In older children, thin arrowroot and rice water are also useful. Broths made from mutton, veal, or chicken, with all fatty particles removed, and mixed with boiled water or barley water, form the most satisfactory diet in this stage of the disease. To make it palatable for very young children, the mixture should be sweetened with white sugar, or, better still, milk sugar. Along with this food the meat essences should be used, giving them alternately or adding them to the broth, which should not be hot.

The exclusive use of animal broths is necessarily limited to a short time. To continue using them exclusively is to starve the child, and too long starvation is often a fatal mistake. Meat essences supply a greater amount of nourishment, but this being comparatively small, even their utility is restricted. A change must be made then, if the child is to gain in weight and be contented with its food. In most cases a return to milk food will be accomplished successfully after an interval of two or three days, providing the milk be peptonised and well diluted, and given in small quantities to begin with. In some of the more severe cases of zymotic enteritis, however, the return to milk food provokes the diarrhœa and increases abdominal pain. Milk food may have to be withheld for several weeks. It is in these cases that raw meat juice proves so serviceable ; the writer cannot speak too highly of its value in this connection. It is very nutritious, containing a large amount of proteid, and in virtue of its richness in extractives very stimulating. It is also rich in mineral matter, and possesses valuable antiscorbutic properties. Above all, raw meat juice properly made is easily digested and readily taken by children. The best way of preparing raw meat juice is to mince up finely raw rump steak and allow it to soak in four times its bulk of cold water (the water being always first boiled) for half an hour. The pieces of meat are then squeezed in a piece of muslin, and all the juice thus extracted. There are certain precautions necessary in the preparation and use of raw meat juice. The meat should always be soaked in cold water; the juice should be perfectly fresh and above suspicion, therefore it may be necessary to prepare it three or four times daily; after being made, raw meat juice should be kept covered in a cool room to which there is a free access of air, and it should never be administered in a hot medium. Raw meat juice may be given *per se*, a little sugar being added to make it acceptable to a fastidious child. Cautiously prescribed, raw meat juice may entirely replace the proteid in cow's milk. Commencing with a teaspoonful or less, thrice daily or every four hours, it may be increased to two or three ounces in 24 hours, according to the age of the child. The best index as to the amount capable of being digested is the stools of the patient. With the addition of cream and sugar, the deficiency in hydrocarbon and carbohydrate is made good; and providing cream can be procured fresh, this may be given with raw meat juice at a comparatively early stage in zymotic enteritis, as it is easily digested in most cases. Owing to its laxative effect, due care must be exercised as to the quantity given at first. Where it cannot be had fresh, or is prohibited for pecuniary reasons, cod-liver oil may be substituted, and this is quite as efficient. If cream prove too laxative, fat may be supplied to the body by rubbing in the cod-liver oil; to disguise its objectionable odour when exhibited in this manner a little linimentum saponis co. (B.P.) should be mixed with it. The question of supplying fat to the economy in zymotic enteritis does not seriously arise until the child is on the high road to recovery, and at this time it will generally tolerate cream or bear the inunctions of cod-liver oil.

Bread jelly is also a useful food in zymotic enteritis. It is deficient in all the elements required in a food except the carbohydrate, and to obtain a sufficient quantity of this the child would be called upon to consume an amount of bread jelly too large to be dealt with satisfactorily by its digestive organs. Therefore, mixed with water alone, it can only be of service temporarily. However, it is very soothing to the mucous membrane of the alimentary tract, and mixed with raw meat juice and cream in suitable proportions, a little sugar being added, a complete food results. If the jelly is made from bread composed of "seconds" flour, it contains a large amount of proteid and mineral matter. Bread jelly is prepared by soaking a thick slice of stale bread (two or three days old) without crust in cold water for six or seven hours, so as to get rid of any injurious material that may be present in the bread; at the end of this time the bread is squeezed dry and boiled slowly in a pint of fresh water for a couple of hours. (This enables the process of starch conversion to be more easily accomplished by the digestive organs.) The gruel thus obtained is first strained and next rubbed through muslin or a fine sieve and put by to cool, when it soon becomes a jelly. When required for use, a sufficient quantity of the jelly and water (first boiled) are mixed to form a food which will be easily sucked through the bottle ; about half an ounce of jelly to eight ounces of water will be the proportions. Bread jelly keeps badly, and the precautions mentioned in the preparation of raw meat juice should be observed here.

In the later stages of zymotic enteritis, and in a great many cases in the earlier stages, when vomiting has ceased to be troublesome, weak peptonised milk can be added to bread jelly, the dilution being lessened and peptonisation abolished gradually as convalescence proceeds. Fat, of course, must be supplied to bring the food up to a standard one.—*Bristol Medico-Chirurgical Journal*, *September*, 1900.

59.—THE TREATMENT OF SUMMER DIARRHŒA IN INFANTS.

By CHARLES GILMORE KERLEY, M.D.,
Assistant Physician to Babies' Hospital, &c., New York.

[From Dr. Kerley's paper :]

I use practically but four drugs : castor oil and calomel, bismuth subnitrate (Squibb's) and opium. Salol, resorcin, the naphthol preparations, so-called intestinal antiseptics, furnish no aid in handling these cases, and are very apt to upset the stomach. The new astringents, tannigen and tanalbin, have a very limited field of usefulness. The culture-field of the intestine must be made as inhospitable as possible. This is best accomplished by withholding the milk diet and in the use of large doses of subnitrate of bismuth -bismuth subnitrate, 12 to 20 grains ; aromatic syrup of rhubarb, 3 minims ; water to make 1 dram. The addition of the aromatic syrup of rhubarb makes a very palatable mixture. The above amount is given early in a severe case, once in two hours to those less urgent. Opium should always be given with caution, and with special indications. It should never be given when the passages are less than four in twenty-four hours. I rarely give it unless the passages are more than six or seven. It is given only when the passages are very frequent, or when they are large and watery. In the cases in which there is considerable fever and prostration, evidence of considerable systemic poisoning, from four to six passages are a benefit. These are to be looked upon as drainage. If this drainage is cut off by the use of astringents and opium the temperature rises, and the patient becomes rapidly septic and dies. When opium is to be used I prefer to give it in the form of Dover powder ; from one-fourth to one-half a grain every two or three hours for a child eight months of age. The cases in which there are infrequent foul stools, prostration and stupor, require only calomel and castor oil, diet and bowel irrigation. For the fever, packs, baths, and sponging are all that are necessary. In case a heart stimulant is necessary, avoid alcohol, for the reason that it is very liable to derange the stomach and injure the already over-worked kidneys. Strophanthus, strychnine, and digitalis may be used as in other diseases when a heart stimulant is necessary. In cases of direct infection, with marked prostration and uncontrollable vomiting, a hypodermic of morphine is always of service. For a child one year old 1-100 grain may be given with 1-600 grain atropia.

As with all useful measures, irrigation of the colon has been overdone. Irrigation is of the greatest service when the stools are infrequent and foul. It is also useful in active cases, those having from six to eight passages daily, particularly if there is any blood or much mucus. The irrigations are carried out at eight, twelve, or twenty-four hour intervals, depending upon the nature of the case. As a rule a one-per-cent. boracic-acid solution or a normal salt solution (heaping teaspoonful to the pint) is employed. If the amount of mucus is very large, or if the stools contain blood, a one-per-cent. solution of tannic acid is used instead. It is well to prepare two quarts of the solution to be used, and discontinue when the water returns clear. The temperature of the solution should range between 95° and 100° F., except in cases of high fever, where it may be used as cold as 60° F. When the child is moribund and athreptic, with low temperature and low vitality, hot water acts as a decided stimulant. For irrigation a soft rubber catheter, No. 14 English, one that will not bend on itself if used properly, is attached to a fountain syringe, the bag of which should be held three feet above the patient's bed. The child must lie on the back or left side with legs well drawn up. The tip of the well-oiled catheter is passed into the rectum. When an introduction of two inches has been effected, allow the water to pass in slowly. The water will distend the parts, and facilitate the further introduction of the tube. Press the folds of the buttocks together until the colon is filled. This in a child of 18 months of age will require twenty-four to thirty ounces of water. When this or a lesser amount, at least one pint, has passed in, allow the solution to run in and out at the same time, the water being forced out alongside the tube.—*Medical News*, *August* 4, 1900.

60.—TREATMENT OF MEMBRANOUS COLITIS.

By W. H. Thomson, M.D.,
Physician to Roosevelt Hospital, New York.

[From Dr. Thomson's paper :]

As to treatment, the first indications are to relieve the colonic symptoms proper, as they may be termed, that is, symptoms which are more or less common to all diseases of the colon. Thus nothing is so soothing to the tenesmus, the cutting and bearing-down pains, and the general abdominal distress, as free irrigation of the colon with normal saline solution, to which may be added oil of peppermint, five drops to the pint. Three to five gallons, at a temperature of 100° F., may be employed once in twelve hours, and given by Kemp's rectal irrigator, according to the printed directions which are furnished with this simple and serviceable instrument. The relief which this hot douche affords is often described by the patients as very great, and as enabling them to sleep at night better than any other measure. Care must be taken, however, that all fluid is returned, lest any quantity retained may afterward provoke a return of pain, thus causing it to act as an enema. By a little practice, however, this may be avoided. Great quantities of mucus are thus dislodged and washed away, but it frequently happens that after the irrigation has been employed, the patient subsequently has a painless movement which consists of a large amount of simple mucus without shreds or membrane. Sometimes I have found benefit from using at the end of the irrigation a gallon of the water in which from 60 to 100 grains of resorcin has been dissolved, being careful that it is all expelled afterward. Once a week a pint of clean, hot water with 30 to 40 grains of silver nitrate may be used instead of the resorcin. Unfortunately this irrigation is not curative.

The next question is, Have we any medicinal remedies which can be expected to be of service in changing the disordered nutrition of the intestinal mucous membrane? I believe that we have one such remedy, and that is small, and, what I may call alterative, doses of castor oil. I have had patients report that the relief afforded by this medicine has been most unmistakable from its first administration. I prescribe it in an emulsion, of which each tablespoonful contains from one-half to one dram of the oil, preferably one-half at first, to be taken either half an hour before meals or an hour after meals. This should be continued for months together, and only intermitted when it seems unmistakably to increase the patient's dyspeptic symptoms. The nitrate of silver in quarter-grain doses, combined in pill or capsule form with nine grains of turpentine resin, and taken three times a day, is sometimes of much service, although not as uniformly as in chronic catarrhal or ulcerative colitis, in which complaints a quarter of a grain of opium is added. To enable the turpentine to dissolve and not pass the bowels unchanged, it should be pulverised well with liquorice powder and a drop or so of liquor potassæ added to each capsule. After the silver has been taken for six weeks, the sulphate of copper in quarter-grain doses can be substituted for it.

The stomach is apt to be dilated and the small intestine the seat of disturbed innervation and a perverted secretion. Five grains of resorcin in solution with tincture nucis vomicæ, half an hour after meals, constitutes a good prescription for the gastric symptoms, to be supplemented by ten grains of sodium benzoate and ten grains of bismuth salicylate in capsules, an hour after each meal, as intestinal antiseptics. We should, however, from the first bear in mind the probable dependence of the disease itself on chronic constipation, and against this I would limit myself to the employment of salines exclusively. From one to two drams of phosphate of soda with ten grains of salicylate of soda should be given every morning in a tumblerful of water as hot as the patient can sip it. After a time the same quantities of sulphate of magnesium may be substituted. Daily massage of the bowels, particularly of the tract of the colon, is also to be highly recommended. As to diet, we may simply exclude beans, corn, spinach, and the woody vegetables, along with oatmeal among the cereals, and then encourage the patients to eat meat, poultry, eggs, zoolak or kumyss, peptonised milk and most cereals. In some cases pancreatic emulsion is of marked service.

Finally bodily movement and out-of-door exercise is beneficial on general principles. Repeatedly we find a summer change to the country do more good than anything else, for fresh air is the best remedy for constipation that can be named, and its effect is not lost in disease.—*Medical News, June* 2, 1900.

61.—MUCO-MEMBRANOUS COLITIS.

By F. BOAS, Berlin; and
JULIUS MANNABERG, Vienna.

[The following is taken from a report of the Thirteenth International Congress:]

F. Boas dealt with the symptomatology, diagnosis and clinical course of muco-membranous colitis: (1) By muco-membranous colitis is understood a special catarrhal disease tending to plastic mucous formations of the colon ; (2) in addition to this form, which is the most frequent, there is another much more rare, in which the process manifests itself in paroxysms, whilst in the intervals there is no noticeable malady except constipation; this form is denoted by the term mucous colic ; (3) lastly, there is a third form which may be designated by the name of artificial muco-membranous colitis ; by astringent injections, especially tannin, this form may be induced in persons who are the subjects of colitis, but not in healthy individuals ; (4) the symptomatology of muco-membranous colitis includes constipation, colic, spasmodic atony of the intestines, glairy or membranous masses in the stools, and a general neurotic state ; nevertheless, several of the symptoms may be wanting, the only one of them that is almost constant is constipation ; (5) that which alone determines the diagnosis is the existence of characteristic mucous masses, the other symptoms — sensitiveness of the colon, coloptosis, movable kidney, and atony of the intestines—at the most can only help to confirm the diagnosis ; (6) it is indispensable that it should be ascertained whether the muco-membranous colitis is an idiopathic condition or a complication ; it is equally of great importance to ascertain whether the membranous colitis is of artificial origin ; (7) in regard to the differential diagnosis, the only alternative that need be considered is mucous colic ; by frequent observations and methodical intestinal injections, in the intervals it will almost always be possible to come to a decision ; (8) the clinical course of muco-membranous colitis is absolutely parallel to that of habitual constipation ; influences which correct the latter will cause the former to disappear, and *vice versâ.*

Dr. Julius Mannaberg, Physician to the General Polyclinic, Vienna, dealt with the pathogeny and pathological anatomy of enteritis membranacea and colica mucosa. (1) A distinction must be made between membranous enteritis and mucous colic. (2) By membranous enteritis is understood a subacute or chronic catarrhal affection of the large intestine, accompanied by evacuations particularly rich in mucus. (3) By mucous colic is denoted a morbid state of which the special clinical symptoms are: Paroxysmal crises of colic followed by evacuation of masses of mucus. (4) It is a question whether the two processes may occasionally be combined. (5) Each of the two morbid forms of which the only common element is the existence of mucous evacuations has a pathogeny peculiar to itself. (6) The first form is nothing more than a catarrh of the large intestine characterised by an abundant evacuation of mucus ; it has the same pathogeny on the whole as ordinary catarrh of the large intestine. (7) Mucous colic, on the contrary, has a special pathogeny. In the great majority of cases it rests on a basis of general neurosis (hysteria, neurasthenia), and there is a tendency to consider the disease as an expression of the neurosis. In the exceptional cases where there is no underlying general neurosis, the morbid state must be regarded as a mono-symptomatic neurosis of the intestine. In addition to this fundamental etiological factor, certain occasional factors capable of producing paroxysms must be taken into account. The principal among them are diseases of the genital apparatus (in man as well as in woman), mental disorders, constipation, irritating rectal irrigations, organic diseases of the intestine. (8) Mucous colic is frequently accompanied by other pathological manifestations to which its production cannot be attributed, but which may be regarded as equivalents of the fundamental nervous element—gastric achylia, nervous dyspepsia, spasmodic constipation, enteroptosis. (9) The pathological anatomy of membranous enteritis is the same as that of enteritis in general. (10) As regards mucous colic in the very rare cases in which it has been possible to make an examination, either on the living or the dead body, no appreciable lesion of the mucous membrane has been found.—*British Medical Journal Epitome, August* 11, 1900.

62.—MELÆNA NEONATORUM.

By William R. Nicholson, Jr., Ph.B., M.D.,
Attending Obstetrician to the Maternity Hospital of Philadelphia.

[Dr. Nicholson relates a case which was apparently due to an infection with the B. pyocyaneus. The following is a very short excerpt from his paper:]

Nothing abnormal was noted in the condition of the child until the sixteenth day, when the resident physician called my attention to it because its mouth had become sore. Two days later, the whole appearance of the child had markedly changed. The temperature, while not excessively high, was distinctly febrile, and the slight trace of blood noticed previously had become a constant flow, apparently from the mucous membrane of the entire mouth. Decided loss of strength was apparent. The lungs were negative. All attempts at nursing were futile. The stools at this time contained blood in considerable quantity and of a bright red colour. The condition continued unchanged except for the occurrence of a few convulsions, until the next day, the nineteenth since birth, when death took place. There was found *post mortem* a generalised parenchymatous degeneration of the organs, a sclerosis of the pancreas, an acute enteritis, and a commencing cirrhosis of the liver. The perivasculitis, the cirrhosis of the liver, together with the sclerosis of the pancreas, approached the changes found in senility. Finally, it is to be especially noted that there were no other evidences of syphilis.

The presence of a chronic pancreatitis in a new-born child is, I believe, in the absence of syphilitic manifestations, of sufficient rarity to deserve at least passing notice. The usual cause of connective tissue overgrowth in this organ is, of course, syphilis, and when it was found, I was somewhat inclined to believe that we might have been dealing with a case of that disease, in spite of the fact that there were no other signs. In looking up the subject more carefully, however, I have found that the presence of a connective tissue hyperplasia in the pancreas has been noted in the new-born in various conditions.

There were three acute infections present in this case, two of which, the bacillus ærogenes lactis and the staphylococcus pyogenes aureus, were general, while the third infection, due to the bacillus pyocyaneus, was local, it being found only in the tissues of the liver and in the bile. That all three were virulent was proven experimentally. The comparatively recent time of making the post-mortem, together with the marked localisation, would seem to do away with any question of post-mortem invasion of the bacillus pyocyaneus. Also the presence of the bacillus ærogenes lactis in the heart's blood would prove that its invasion was ante-mortem, as otherwise, though in a normal inhabitant of the intestine, it would not have been found in the heart in the absence of advanced putrefaction, since it is a non-motile bacillus. If we conclude, as seems to be justifiable from the symptoms presented by this child in connection with the post-mortem conditions and bacteriological findings, that it was a true case of infection by the bacillus pyocyaneus, we have still to consider the question, to me the most interesting of any which the case presents, namely, how did infection occur in this instance without being operative in the other babies present in the wards of the hospital at that time and living under the same hygienic conditions? Unfortunately, the facts at command are not sufficient to form a basis for conclusions, and I can only present an inference which, while supported by absolutely no proof, still seems to me to be the most plausible explanation of the development of a sporadic case of this type.

The usual sources of infection having apparently failed to explain the infection, I am in doubt as to its solution, and only offer the following inference as a possibility. It is a well-known fact that the occurrence of the bacillus pyocyaneus upon the skin and in the saliva is not very rare, the investigations of Mühsam resulting in its detection upon the skin of the axilla and in the inguinal regions in seven out of fifteen cases examined, while Pansinia and Frick have also found it present in saliva and sputum, and Eberth determined it in sweat, as did also Audouard. Bearing the above-mentioned facts in mind it has occurred to me that possibly the explanation of the infection might have been found by bacteriological study of the nipple surface of the mother, both because the nipples form very good culture grounds if not carefully cared for, and because the aseptic condition in the puerperium depends more upon the intelligence of the woman herself than does any other portion of the aseptic technique. Moreover it is to be remembered that among the class of women in the wards of our maternity hospitals the custom of moistening the nipple with saliva before suckling is not very uncommon, which fact, in the light of the investigations by Virchow and Audouard, may render my inference still more plausible.

In conclusion I must confess to a certain dissatisfaction in reporting this as a case of pyocyanic infection for the following reason :—(1) Because of the triple infection. (2) Because of the very localised area in which the bacillus pyocyaneus was found in comparison with the distribution of the other two organisms. (3) Because it was not detected in the alimentary tract, a situation where one might have expected to have found it because of the development of the dominant symptom in that locality. (4) Because I failed to attempt its detection in the blood during life.

In spite of the points just mentioned, which may seem to some to be of sufficient gravity to invalidate the case, I still believe it to have been a true case of infection by the bacillus pyocyaneus for the following reasons :—(1) The negative history of the first sixteen days of life, followed by an acute illness, the symptoms of which can be explained only by the assumption of an infection. (2) The complete absence of any pathological lesion sufficient to cause death. (3) The presence of the bacillus pyocyaneus in the bile and liver tissue in a condition of virulence. As previously stated, I find that all investigators are in agreement as to the rarity of the occurrence of this organism within the body, and while future study may demonstrate its presence more frequently than we now suppose, I do not believe that it will be found to be a harmless inhabitant of the human body. (4) The association of hemorrhage as a symptom, the presence of the bacillus pyocyaneus having been established, seems to me to afford at least strong presumptive evidence that it was the dominant infection.—*American Journal of the Medical Sciences*, *October*, 1900.

63.—APPENDICITIS AND ARTHRITIS.

By F. J. Poynton, M.D. Lond., M.R.C.P.

Dr. Poynton commenced by stating that the association of arthritis and appendicitis, though not common, was of interest because it seemed likely to throw light upon the etiology of perityphlitis. Some observers had suggested that rheumatic fever was an important cause of appendicitis, and based that opinion upon (1) the associative occurrence of perityphlitis with acute rheumatism; (2) the occurrence of a polyarthritis resembling that of acute rheumatism coincident with, or shortly after, an attack of perityphlitis; (3) the favourable reaction of some cases of perityphlitis to treatment by salicylates; and (4) the similarity in structure of the tonsil and vermiform appendix which, it was suggested, implied a similarity in pathological tendencies. Dr. G. A. Sutherland, in the Edinburgh Hospital Reports for 1895, published examples of this association occurring in children. Dr. Poynton brought forward a somewhat similar case which occurred during an attack of rheumatic chorea, and alluded to the generally-received opinion that abdominal pain was common in rheumatic children. He pointed out that all these cases were mild cases and lacked, in his opinion, absolute confirmation of the theory. Dr. Burney Yeo, in the *Brit. Med. Journal*, June 6, 1894, had published the case of a girl the subject of an acute rheumatic attack who some months before had developed another attack of arthritis, a fortnight after which a sharp attack of perityphlitis commenced. Rapid improvement was followed by a relapse and a fresh outbreak of arthritis. Complete recovery ensued without operation under salicylates. The pyrexia was high and very irregular. As to the value of the treatment of perityphlitis by salicylates many explanations were offered. Dr. A. Haig considered it to be an evidence of the gouty origin, others of a rheumatic origin, of appendicitis; while Dr. Beverley Robinson had been unable to convince himself that rheumatism and perityphlitis were casually associated. It might be justly inferred from the views expressed above that the success obtained by the treatment with salicylates was no proof of the rheumatic nature of the symptoms. Dr. Poynton thought that the evidence in support of the rheumatic origin of perityphlitis was not conclusive as yet. He had, while registrar at St. Mary's Hospital, investigated 60 cases of perityphlitis with the idea of gaining some more information upon the clinical side of the question. As his guide he had taken the manifestations of the rheumatic state as laid down by

Dr. Cheadle in the Harveian Lectures for 1888. Every type of case was represented in this series, and in 31 the diagnosis had been verified by operation. In 11 there was a history of family or personal rheumatism, but in none of the cases could any casual relation between the two diseases be traced. In two of these cases there was polyarthritis. It seemed most probable that this polyarthritis was usually of the nature of a pyæmic rather than of a rheumatic lesion, and if this was the case it was an indication for immediate operation. Finally, allusion was made to cases of mon-articular rheumatism of the right hip-joint in children, which for a while might closely simulate perityphlitis. The diagnosis was usually an easy one, for other rheumatic manifestations soon appeared in such cases as these, and the position was then clear. The active surgical measures that were now adopted for perityphlitis made the diagnosis of some importance. In conclusion, he was inclined to think that clinical evidence was, on the whole, against the explanation that appendicitis with polyarthritis was rheumatic.

In the discussion, Mr. J. H. Morgan remarked that he thought that Dr. Poynton's view that the arthritis was of pyæmic and not of rheumatic origin was a correct one. He had seen cases which supported this opinion.--Dr. H. D. Rolleston had hoped that Dr. Poynton would advance bacteriological evidence in support of the rheumatic origin of appendicitis. Dr. J. Cavafy had long been in the habit of treating appendicitis with salicylates. He (Dr. Rolleston) thought that the structural analogy between the tonsil and the appendix supported the view that appendicitis might be of rheumatic origin. There seemed to be a prejudice against this view founded on the idea that operation might in consequence be neglected. He suggested that the initial stage of appendicitis might be rheumatic, but the other forms of infection might be added later and introduce a septic element. Some cases of appendicitis certainly recovered under salicylates.—Mr. F. C. Wallis expressed the opinion that arthritis might be due not only to appendicitis, but to other lesions of the bowel as well, of which he had seen examples.—Dr. H. A. Caley referred to the scarcity of arthritic or other rheumatic manifestations in association with appendicitis, which he regarded as a strong argument against the existence of an intimate relationship between rheumatism and appendicitis. There seemed, however, to be a distinct bearing upon some cases of catarrhal colitis and rheumatic symptoms, and in this way—through the medium of the colitis—the rheumatic state might at times be concerned in the etiology of appendicitis.—*From Report of Medical Society of London in The Lancet, October* 27, 1900.

64.—ENLARGEMENTS OF THE SPLEEN IN CHILDREN.

By SAMUEL WEST, M.D., F.R.C.P.,

Assistant Physician St. Bartholomew's Hospital ; Senior Physician Royal Free Hospital.

[From Dr. West's paper :]

The child is subject to the same enlargements of the spleen as the adult, but with a frequency which varies according to the degree to which they are exposed to the common exciting causes. In childhood growth is active. This presumes active growth in the blood and blood-making organs to keep pace with the general demands of the body. Active growth implies instability of structure, so that slight causes may produce great disturbing effects. We might therefore *a priori* expect that children would be subject to enlargements of the spleen of a kind and with a frequency uncommon in the adult. Besides this, enlargements of the spleen are more easy to detect in the child.

The specific fevers and the septic diseases.—Malarial enlargement of the spleen in this country is certainly rare in children, for ague is rare ; but not so in countries where malaria is common. It may then be found where there is little or no evidence of definite malarial attacks. Leucocythæmia is usually met with in the middle periods of life, and is comparatively uncommon in children and very rare in the very young ; yet well-marked instances have been recorded in infants of a few weeks, *e.g.*, eight to ten weeks old. With Hodgkin's disease the difficulties are greater, but they arise chiefly from the indefinite character of the disease itself. Hodgkin's disease occurs fairly frequently in children, but is very rare before the age of eight years, and is, I believe, unknown in infants. Regarded as the cause of splenic enlargement the difficulty of diagnosis with Hodgkin's disease is not nearly so great as it appears, for the spleen becomes enlarged as a rule only subsequently to the enlargement of the lymphatic glands in general, so that there is this general glandular enlargement to assist the diagnosis. The spleen is almost the favourite seat of tubercle, and rarely, if ever, escapes when tubercle is disseminated either in the acute or chronic form. In the chronic form the enlargement may be considerable, for the spleen may be stuffed with caseous nodules as large as a cob nut. Syphilitic enlargement of the spleen is of clinical importance in one class of case only, viz., that of infants and very young children.

If the term splenic anæmia be retained, we must distinguish the two groups as splenic anæmia of the adult and splenic anæmia of the infant.

Splenic anæmia of the infant.—The nature of the case is often clearly indicated by the peculiar anæmia and the enlargement of the abdomen. The anæmia is profound and the pallor very striking. The complexion has a peculiar, waxy, ivory-like colour, with a tinge of olive-green in it, which is very characteristic. The abdomen is tumid, and the enlargement of the spleen often obvious to the eye. The child is usually not emaciated, and may be plump, but is very feeble. The blood shows no changes but those of simple anæmia, and there is little or no general enlargement of the lymphatic glands. The child is brought under observation usually on account of its general ill-health, weakness, or pallor; occasionally on account of respiratory catarrh or gastro-intestinal disturbance, or some other accidental complication, but only rarely because the abdomen is enlarged. Most of the other symptoms are accounted for by the extreme anæmia. The splenic enlargement is easy to make out; it may be enormous, so that the organ may extend forward beyond the umbilicus, and downwards as far as the anterior superior iliac spine. It moves freely on respiration, is smooth on the surface, and even when much enlarged is not tender to palpation. The changes in the blood are those of simple anæmia. The affection commences almost invariably in infants or very young children, and when discovered for the first time in older children has in all probability dated from infancy. The liability of the sexes is equal. The affection runs a chronic course, lasting some months, but in the end many cases get quite well. But on the ultimate prognosis in general very varying opinions are held by different writers.

Treatment.—The treatment is that of anæmia, and consists of good food, plenty of light and air, cod-liver oil, hypophosphites, iron, and similar remedies. Quinine is useful in malarial cases, mercury and iodide of potassium in syphilitic cases, but the specific remedies, especially mercury, not only do no good, but are actually harmful where the specific cause is absent. Arsenic is a favourite remedy, as in other forms of anæmia, but is far inferior to iron.

The facts bearing on the relation between syphilis, rickets, and enlargement of the spleen appear to be these:—(1) That syphilis is occasionally, and rickets frequently, associated with splenic anæmia; (2) that in neither case is the association constant; (3) that they are neither of them the sole cause, and are probably not the cause at all, except perhaps indirectly by means of the ill-health to which either leads. Another question of interest remains, viz., the relation which exists between the anæmia and the splenic enlargement. There are three possible alternatives :—(1) The enlarged spleen may be the cause of the anæmia ; (2) the anæmia may be the cause of the enlarged spleen ; (3) both the anæmia and the splenic enlargement may be joint results of some common cause. To the first two there are very strong objections. If neither of these be correct, it would seem to follow that the third explanation must be the true one, viz., that both conditions depend upon some common cause. It may be, as some hold, that any condition of the health serious enough to lead to profound anæmia in infants may be associated with splenic enlargement. If this be true, it would follow as a corollary that when the health is cured the splenic enlargement would disappear. At the same time there are many objections to so wide a view as this, and it follows that if there be a common cause we do not yet know what it is.—*Medical Press and Circular*, *August* 22, 1900.

DISEASES OF THE URINARY ORGANS.

65.—FEHLING'S TEST FOR SUGAR IN THE URINE.

By R. T. Williamson, M.D. (Lond.), F.R.C.P.,

Physician to the Ancoats Hospital, Manchester, and Assistant Lecturer on Medicine, Owens College.

[Dr. Williamson draws attention to some of the disadvantages of this test and how they are to be met.]

Slight decomposition of Fehling's solution is a very frequent cause of difficulty. In the majority of urine examinations, Fehling's solution answers admirably and no other test is required. If no oxide of copper is thrown down on boiling the urine with the Fehling's solution, and no greenish precipitate appears when the mixture cools, then grape sugar is absent in the clinical sense. The test is very sensitive, and as a negative test no better is required for clinical work. Also when the urine reduces Fehling's solution markedly, and when at the same time the quantity and specific gravity of the urine are increased, and thirst and other diabetic symptoms are present, the reduction of Fehling's solution may safely be assumed to be due to grape sugar. But it is in a third group of cases in which the difficulty chiefly arises—the cases in which diabetic symptoms are absent and the quantity and specific gravity of the urine are normal or only slightly altered Often the reduction of Fehling's solution is slight, and it may only occur as a greenish turbidity when the fluid cools after boiling with the urine. Here some confirmatory test is necessary, since, in addition to grape sugar, there are other substances occasionally met with in the urine which reduce Fehling's solution—such as lactose,pentose, glycuronic acid, alkapton or pyrocatechin. A great excess of uric acid or urates will give a slight discoloration or reduction of the Fehling's solution, especially if the test be not performed in the proper manner. If we wish to exclude all possibility of an excess of uric acid or urates causing a slight reduction of Fehling's solution, the urine may be filtered several times through animal charcoal until it becomes colourless, as suggested by Seegen and Sir William Roberts. The following method of carrying out this test was recommended by Sir William Roberts :—

> " A test tube is charged with Fehling's solution to the depth of about a quarter of an inch, and the filtrate is added to the depth of about two inches, and the two fluids well mixed. . . . The flame of a lamp is then applied to the upper half of the column of liquid, and this is briskly boiled for a couple of seconds. . . . If sugar be present, the boiled upper half of the column is soon seen to change—it loses its blue colour and assumes a yellowish tinge ; and the earthy phosphates, which are thrown down in light flocks by the alkali of the test, are tinted more or less of a gold colour by the precipitation on them of the yellow oxide of copper. Meanwhile the lower unheated portion of the column remains with its blue colour unchanged "—(*The Practitioner*, January, 1896.)

Seegen points out that it is important to obtain a good specimen of animal charcoal (blood charcoal). In employing this method, I have found that many specimens of charcoal require to be washed carefully before being used, otherwise impurities are removed by the urine which interfere with the testing. Also, if it be convenient to postpone the decision, with reference to the presence of sugar, for an hour or a day, the time actually taken up in the performance of the phenyl-hydrazin or fermentation test is not greater than that required for the attention to the filtration of the urine several times through animal charcoal.—*The Practitioner*, *November*, 1900.

66.—ALBUMINURIA IN DIABETES AND RENAL DIABETES.

By Prof. F. SCHUPFER.

This subject is again discussed in the February number of *Il Policlinico* by Prof. Schupfer. [See also *Retrospect*, vol. 121, p. 285.] The author first considers the connection between diabetes occurring in those who are affected with sclerosis of the arteries and albuminuria. The degeneration of the vessels is not the consequence of diabetes, but frequently the cause both of the diabetes and of the arterial sclerosis is the same. But in some instances it is possible that sclerosis of the pancreatic vessels may be the immediate cause of diabetes. Further, it must not be forgotten that apoplectiform attacks connected with the presence of arterial degeneration may themselves be the immediate cause of glycosuria. Under no circumstances does it appear that in this form of diabetes the nephritis has any special influence on the course of the glycosuria. It may be that the sugar diminishes or disappears from the urine as the patient becomes enfeebled ; but if the general health remains fairly good, the sugar often remains for long periods in quantity almost constant in the urine. Nevertheless, in diabetes associated with vascular degeneration, when nephritis supervenes, the prognosis becomes decidedly less favourable, and renders it necessary to diet the patient, with the view of excluding those articles of consumption which may tend to aggravate the renal complication.

The author proceeds to the consideration of the relationship between gouty diabetes and albuminuria. There is a marked distinction between gouty diabetes and that due to disease of the pancreas, and this difference is apparent at the first glance. In the gouty form of the affection, the appearance of the patient is often that of health, and the complexion florid, except in the later stages of the malady. In pancreatic diabetes, on the other hand, the emaciated and enfeebled frame soon after the onset of the disease is only too easily observed. In the first form of the affection, the onset is so gradual that it may be extremely difficult to ascertain the exact time at which the health first gave way, whereas in pancreatic diabetes, the disease often begins suddenly, so that in some cases, the patient can indicate the day, or even the hour, when symptoms were first noticed. In gouty diabetes, headache, hæmorrhoids, epistaxis, and neuralgic pains not seldom precede the occurrence of glycosuria ; nevertheless, the general condition remains good, and such patients are often vigourous, mentally active, large eaters, and frequently heavy drinkers. Under these circumstances the presence of sugar in the urine may be discovered accidentally, or may be detected from the suspicion of its presence being aroused by complaints of fatigue on slight exertion. This being the manner in which diabetes presents itself in gouty patients, it remains to ascertain what effect on the course of the disease is exerted by the appearance of albuminuria. The histories of several cases of this description are related, and the author arrives at the conclusion that in gouty diabetes the glycosuria and albuminuria may increase and diminish *pari passu*, or may alternate ; or, again, the increase of the one may be accompanied by the diminution of the other. It appears that all these changes in reality depend upon the feebleness of health induced by the renal disease and upon the nature of the food. There is no definite and constant relationship between the two phenomena. Both are the consequence of the same malady—gout—and both may become more or less marked, quite independently the one of the other.

Cases of gouty diabetes may be classified as (1) slight diabetes with marked albuminuria ; (2) severe diabetes with marked albuminuria ; (3) mixed form, in which slight glycosuria is associated with severe albuminuria. As regards prognosis, the author considers that this is always made worse by the appearance of albuminuria in cases of gouty diabetes. It must not be forgotten that this albuminuria may be due to cystitis, to pyelitis, to stasis in the kidneys, &c. ; but such cases are exceptional, and in the large majority of instances, the albuminuria is the expression of a genuine nephritis. As regards the diet in such cases, this should be arranged more with regard to the nephritis than the diabetes ; and, especially in granular kidney, fresh vegetables are an important addition to the dietary. Milk is also very advantageously administered in these instances, whereas tea and coffee should either be excluded or taken in very moderate quantity. The author considers at length the subject of renal diabetes, and gives an interesting résumé of the views held by different observers on the question of the occurrence of this form of the malady.

As the result of his own observations, Dr. Schupfer believes that renal diabetes is merely another name for ordinary diabetes of gouty or syphilitic origin, in which, concurrently with the appearance of albuminuria, there is a diminution, and finally a disappearance of glycosuria. The whole paper is most suggestive, and the results obtained are of the greatest importance, breaking as they do comparatively new ground, that, namely, which concerns the relationship between a serious and usual complication of diabetes and the latter malady itself.—*Dr. Syers' abstract in Treatment, August*, 1900.

67.—TREATMENT OF SCARLATINAL NEPHRITIS.

By Robert Coleman Kemp, M.D., New York.

[From Dr. Kemp's paper read before the New York Academy of Medicine :].

Prophylaxis and initial treatment.—It is important not to miss the clinical manifestations which announce the onset of nephritis. When, during the course of convalescence from scarlet fever there is an unaccountable rise of temperature, the beginning of a nephritis should be suspected. Even before this there are certain slight changes in the urine that give warning of the occurrence of a renal complication. Especially has an increase of urates been noted. Sometimes there is a sudden fall of specific gravity, and this before either albuminuria or polyuria has developed. After the first week of scarlet fever the specific gravity and the amount of urine passed should be watched carefully. In certain cases an increase of specific gravity takes place. This is soon followed by a lessening in the quantity of the urine and the development of high colour. These are symptoms of a congestion of the kidney, and should be the signal for prophylactic treatment for the nephritis. These changes in the urine occur before the development of anasarca or of the lassitude and weakness which are usually considered to be the initial symptom of the disease. The pain in the back, which is sometimes considered pathognomonic, does not always occur, and often is absent until the disease has fully developed. The anasarca may not be among the early symptoms, and yet may develop very extensively later on, filling up all the serous cavities and even causing œdema of the brain.

Scarlatinal Uræmia.—This is usually preceded by certain prodromal symptoms that are not difficult of recognition. The urine becomes small in amount, is of high colour and high specific gravity. There is nausea at first, and then vomiting and diarrhœa. Restlessness develops, followed by muscular twitchings. Amaurosis sometimes develops as an early symptom. After a time the patient becomes stuporous, and finally complete coma develops. Sometimes death occurs without this regular progression of symptoms ; either fulminant œdema or true cerebral apoplexy closes the scene without much ado. At times there develops during the course of the uræmia an enlargement of the heart. Enlargements of the liver and spleen have also frequently been noticed, and these are usually fatal cases.

As soon as spasmodic symptoms begin to develop, nitrite of amyl as an inhalant should be used for its anti-spasmodic effect. Wherever pulmonary symptoms manifest themselves early, oxygen should be used freely. Oxygen has a far wider sphere of usefulness than is usually conceded to it by the average practitioner. Where respiratory symptoms are prominent, however, or where anæmia is a marked feature of the case, oxygen will always be found to be of the greatest service. Its early employment will give excellent satisfaction.

Normal salt solution.—A very important modern adjunct to other treatment of the toxæmia developing from renal insufficiency after scarlatina is the introduction of normal salt solution into the circulation. This may be done in any one of three ways : By enteroclysis, by hypodermoclysis, or by direct infusion into a vein. A small intravenous infusion acts as a powerful diuretic even in cases where it does not cause a preliminary rise of blood-pressure. This question has been investigated very carefully in animals, and it has been noted that diuresis was increased in about two minutes after the intravenous injection of even a very small quantity of normal salt solution. Enteroclysis is a simple and easy way of introducing normal salt solution into the system. The fluid to be injected should be at a temperature of 110° to 120° F. Enteroclysters at low temperatures cause a preliminary stimulation, but this is followed by a stage of depression. The warm clysters are always beneficially stimulant. A continuous enema is often a precious therapeutic aid to other forms of treatment. The absorption of pleuritic fluid due to the persistence of oliguria may be brought about by this method. There is no proportion, as a rule, between the amount of fluid absorbed by the intestines and that which is eliminated by the kidneys. As much as forty ounces of urine are known to have been passed after the administration of a clysma of ten ounces.

Hypodermoclysis.—The best place for introducing salt solution under the skin is in the lateral lumbar regions. Here there is no interference with respiration, no pain on movements of the limbs, and no interference with ordinary muscular movements. Hypodermoclysis would seem to be indicated in some cases after the administration of anti-toxin. Where diphtheria and scarlet fever are running their course together, or where diphtheria follows scarlet fever, and there seems to exist a tendency to nephritis, anti-toxin injection should be followed by hypodermics of saline solution. Anasarca does not contra-indicate the use of hypodermoclysis. It will usually be easy to find some portion of the body, in which there is no fluid in the cellular tissues, reasonably suitable for hypodermoclysis. An increased flow of urine occurs after even very small amounts of saline injected hypodermically, so that this method of treatment, far from adding to the anasarca, will decrease it.—*Medical News, July* 28, 1900.

68.—THE DIAGNOSIS OF RENAL INSUFFICIENCY.

By Professor ACHARD, M.D.

[From Professor Achard's paper :]

Clinical observation has for a long time revealed an *ensemble* of general and functional symptoms which warranted suspecting the existence of renal lesions, and sometimes a correct diagnosis could be made before examining the urine. Among those symptoms he mentioned the respiratory, digestive, and nervous troubles of uræmia which marked, so to speak, the rupture of tolerance in renal insufficiency, yet they are not always well characterised, and frequently their signification can only be fixed by the discovery of albumen in the urine.

The small signs of Brightism, such as vertigo, numbed fingers, cramps, nocturnal pollakiuria, induration of the arteries, would naturally draw attention to possible renal insufficiency at an early period of interstitial nephritis. However, they would not indicate the degree of the insufficiency, and several of those signs belonged to troubles of the circulation produced by the same cause as the lesion of the kidneys. Œdema, or, better still, dropsy, presented special characters in renal affections. But the effusion was not always the result of renal insufficiency, as that latter affection could exist without œdema. Without ignoring, consequently, the extreme importance of the general and functional troubles mentioned, they were not sufficient in themselves to arrive at a well-considered diagnosis. It was in the products only of the renal secretion that the practitioner should seek the supplement of information that he needs.

The secretion of urine results from changes accomplished in the parenchyma of the kidney, in conformity to the general laws which preside over the molecular exchanges between the liquids and the organism. In the diseased kidney certain portions of the parenchyma allowed albumen to pass, others can only give passage to crystalloid substance, while still others deeply sclerosed are only permeable to water. The osmotic walls are formed in the kidney by the membranes of the capillaries, by the membrane of Bowman, and by the epithelium of the tubuli. Now these different portions are affected in a very unequal manner in the different kinds of nephritis. It is the interstitial nephritis which produces the greatest sclerous thickening of the capillary walls and of the membrane of Bowman, as well as the atrophy of the tubular cells. Consequently it is *a priori* this affection which produces the greatest impermeability, and experience confirms this theory. The result of the exchanges accomplished through the parenchyma depends primarily on the state of this parenchyma—that is to say, on the quality of the permeable wall.

Quantity of urine.—Physiology teaches us that the abundance of urine depends chiefly on the activity of the circulation of the kidney; that is to say, the quantity of blood passing through the glomerules in a given time. The qualities of the osmotic walls did not consequently play the first *rôle*.

Thus polyuria and oliguria do not furnish us with direct evidence on the permeability of the kidney. Of two filters it is not that on which the largest amount of water is thrown which is the most permeable, but that which allows to pass the largest quantity in a given time. Polyuria, for instance, is commonly met with in interstitial nephritis where impermeability is the rule. On the other hand scanty and loaded urine can be observed in certain forms of heart disease, although the renal permeability is well preserved. In fine the quantity of urine deserves the greatest attention in order to appreciate the progress and the prognosis of certain morbid conditions affecting more or less the kidneys, but it does not furnish by itself sufficient information on the secreting value of the renal parenchyma. The composition of the urine, on the other hand, puts us on the track.

Albuminuria.—Since the discovery of Bright, albuminuria is the fundamental symptom that the examination of the urine furnishes to the diagnosis of renal affections. However, in spite of three-quarters of a century of patient researches, the exact signification of this symptom has not been satisfactorily determined, its presence does not always indicate the existence of an indelible lesion, for albuminuria can show itself temporarily, as it were, without any other sign of nephritis. Neither does it afford absolute information on the histological seat of the degeneration of the parenchyma. Albumen is met in the urine principally in the state of serine and of globuline, but up to present neither the nature, abundance, nor the relative proportion of the different kinds of albumen have furnished precise details on the degree or on the origin of the renal lesion. Nevertheless, it must be conceded that albuminuria constitutes a precious material sign, which no practitioner could neglect in establishing a diagnosis of nephritis. But its value, like that of so many other symptoms, can only be properly judged by considering it with the totality of the morbid symptoms.—*Medical Press and Circular*, *August* 1, 1900.

69.—MYELOPATHIC ALBUMOSURIA.

By T. R. Bradshaw, B.A., M.D., M.R.C.P.,
Senior Assistant Physician to the Liverpool Royal Infirmary.

[From Dr. Bradshaw's paper :]

Definition.—Myelopathic albumosuria may be defined as a disease characterised by an invasion of the cancellous tissue of the bones of the trunk by a cellular growth, by a disappearance of the osseous tissue, and by the presence in the urine of large quantities of a peculiar albuminous substance belonging to the class of bodies known as albumoses.

Symptoms.—The disease is one occurring in the second half of life, and is apparently more frequent in men than in women. The symptoms may be classified under two heads—those connected with the affection of the bones, and those connected with the condition of the urine. In my case it was the condition of the urine which first suggested that anything was wrong ; in the majority of cases the earliest symptoms were those connected with the bones. The first complaint is generally of pain in the lumbar region suggesting lumbago ; it is generally aggravated by movement ; the patient probably looks anæmic, the pains do not yield to treatment ; but there is nothing to suggest the serious nature of the case unless the condition of the urine, which I will presently describe, is recognised. The pains vary much in severity from day to day, but on the whole become progressively worse, and the patient becomes disinclined for exertion. The pains become more general, being referred to the loins, the ribs, and the sternum, and tender spots arise in the course of the bones, which lose their normal rigidity to a remarkable extent. The chest wall seems to yield to the pressure of the hand or the stethoscope, and actual fractures of the ribs take place either spontaneously or from the exertion of an amount of force which would cause no discomfort or injury to a healthy person. A remarkable curvature of the spine appears, and the mobility of the vertebral column is lost. In spite of the pain, weakness, and deformity, the patient is able to leave his bed and walk about until near the end of the case—a circumstance which is evidently due to the fact that the disease does not attack the bones of the extremities. In this respect it differs in a striking manner from another disease with which it has been sometimes confounded—namely, osteomalacia, in which the long bones are early affected, and the power of standing is lost almost from the first.

Condition of the urine.—The characteristic feature of the urine is the presence therein of a proteid which bears a superficial resemblance to albumin, but which can be easily shown to differ from albumin in several of its reactions. The characteristic reactions of the body are the following :—(1) It coagulates at a comparatively low temperature (60° C. = 140° F.) ; (2) the coagulum is re-dissolved on boiling ; (3) it is readily precipitated by hydrochloric acid, as well as by nitric acid, and the precipitates are dissolved on boiling. I consider that the precipitation with hydrochloric acid, carefully carried out, is the most satisfactory test for bedside use. It requires no special apparatus, and if the urine is diluted well with water the reaction is quite distinctive. I have found it give a positive result when as much as twenty-nine volumes of water had been added to the urine. It should be applied by the contact method. The degree in which the coagula, which had been produced either by heat or acids, are soluble on boiling, varies somewhat in different specimens, and as a rule is less complete when the body is present in large amounts. A remarkable circumstance is that the albumose has a tendency to separate out spontaneously on standing. In my case this separation sometimes took place in the bladder or kidneys, so that the urine when voided looked like milk. It was this condition of the urine that first made the patient think there was anything the matter with him. I do not find this remarkable appearance recorded as having been observed in any other of the published cases, but a few of my medical friends have told me that they believed they had seen something like it.

Diagnosis.—The diagnosis of myelopathic albumosuria presents no difficulty to anyone who is acquainted with its symptoms, as the condition of the urine appears to be pathognomonic of the disease. This condition of the urine is present in most, if not all, of the cases when the patient seeks advice. In the early stage the disease may be mistaken for muscular rheumatism ; when deformities appear it may be mistaken for osteomalacia or for tuberculous disease of the spine. On the other hand, the condition of the urine might lead to the diagnosis of large white kidney being made, or, if the albumose is spontaneously coagulated, to that of chyluria.

Prognosis.—The disease seems to be always fatal, but sometimes its course is remarkably prolonged. In one instance the illness began eight years before death, and the albumose was known to be present for six years. As a rule cases seldom go on for a year after the symptoms become so severe as to lead them to seek advice. Remarkable intermissions are frequently noticed in the progress of the cases which often give rise to false hopes of improvement. Death takes place from exhaustion or from some intercurrent disease, of which pneumonia appears to be the most frequent.

Treatment.—No treatment which has been tried hitherto has appeared to have the slightest effect on the progress of the disease. Anodynes are frequently called for, and great care must be used in handling and examining the patient, owing to the readiness with which fractures are produced.—*British Medical Journal, November* 3, 1900.

70.—UROBILINURIA.

By ARCHIBALD E. GARROD, M.D., F.R.C.P.,
Physician to the Hospital for Sick Children.

[The following is taken from Dr. Garrod's paper on Urinary Pigments in their Pathological Aspects :]

It is necessary to say something of the clinical aspects of urobilinuria. Increased excretion of the pigment, evidenced by a dark absorption band seen when the urine is examined with the spectroscope, is a very common phenomenon in disease, and we may distinguish between cases in which the band is seen for only a few days in succession and those in which it is present over a long period. A distinction may also be drawn between cases of what may be called "pure urobilinuria," in which a markedly increased urobilin excretion is the only obvious pigmentary abnormality, and those in which uroerythrin and hæmatoporphyrin are also present in excess. In febrile disorders of almost every kind temporary urobilinuria may be met with, the duration of which usually corresponds with that of the pyrexia. In diseases of the liver the urobilinuria is usually persistent, as is well seen in cases of cirrhosis, malignant disease, or passive congestion secondary to cardiac or pulmonary troubles. In such cases the urobilin band is apt to be masked to some extent by a general absorption of the violet end of the spectrum due to other pigments. In diseases attended by excessive hæmolysis, and during the absorption of extravasated blood, there is apt to be conspicuous urobilinuria, and unless complications are present there is no corresponding increase of uroerythrin or hæmatoporphyrin. Such urines have a warm orange colour, which is readily recognised by a trained eye, and at the apex of a conical glass a pinkish tinge is usually seen. The occurrence of persistent urobilinuria in pernicious anæmia was first described by Dr. F. W. Mott and Dr. William Hunter, and it supplies a diagnostic sign of real value and affords an indication of the progress of the case. In association with it I have observed a marked excess of urobilin in the fæces. When blood extravasations are being absorbed a temporary urobilinuria is apt to occur in a day or two after the occurrence of the hemorrhage, and this again may prove of service in the diagnosis of deep-seated hemorrhages, such as pelvic hæmatoceles. Diminished excretion or absence of urobilin from the urine may be due to diminished formation of bile-pigment, as in chlorosis, phosphorus poisoning, or acute yellow atrophy of the liver ; to suspension of urobilin formation in the intestine, as in typhoid fever with green stools ; as well as to occlusion of the common bile duct. Viglezio suggested that renal permeability has an important influence upon the excretion of this pigment, and it is a clinical fact that albuminuria and urobilinuria very seldom co-exist. There is, moreover, experimental evidence in support of this view. As might be expected, all diseased kidneys do not hold back urobilin to the same extent, and Zoja thinks that a parallelism may be traced between its excretion and that of urea. Morfaux, who, with Achard, has recently worked at this subject, states that a kidney which is impermeable to methylene blue is impermeable to urobilin also, and that the more diffusible chromogen may pass through a kidney which does not allow the passage of the formed pigment.—*The Lancet*, *November* 10, 1900.

71.—PIPERAZINE IN NEPHROLITHIASIS.

By CHARLES J. ALDRICH, M.D.,

Cleveland ; Visiting Physician and Neurologist to the Cleveland General Hospital and Dispensary.

[From Dr. Aldrich's paper :]

The facts set forth in the cases to be reported are of such an incontestable nature that they will convince the most sceptical of the marked effect which piperazine has in securing and maintaining the solubility of uric acid within the genito-urinary tract. They are, indeed, but two of the many cases in which piperazine has been used with signal benefit by the reporter, but the character of the other cases was not such as would be desirable for a brief report.

Case 1.—In the fall of 1895 I was called to see J. M., aged 36 years. He uses tobacco freely, and, while never intoxicated, undoubtedly drinks more liquor than is good for a man in his condition. He was attacked by a severe pain during the night preceding my visit. The pain which he experienced seemed to be in the right loin, following and extending down the ureter, causing powerful retraction of the testicle on that side. He was intensely nauseated, and vomited several times previous to the administration of the morphine. After the use of morphine he had some rest, but in the morning he suffered from retention of urine, for which I was obliged to catheterise him, obtaining a comparatively small amount of urine, and more free blood than could be accounted for from the great ease with which the catheter passed into the bladder. The symptoms were plainly those of renal calculi. He had many times noticed uric acid sand in the urine, and had also had pains in the loin, particularly upon the side of his present pain, and he had also noticed at times an undue tenderness of the testicle on the right side. I prescribed twenty grains of piperazine dissolved in a quart of water, to be drank during the day. This was continued uninterruptedly for a period of sixteen days, when the aching pain in the loin, into which the severe attack had degenerated, entirely ceased, but he immediately began to feel symptoms of vesical disturbance, which he had never before experienced. Immediately on the entrance of the Thompson sound the faint grating and clicking of a calculus could be felt. But because he felt quite well he said he would delay the operation for a little time; he was able to work at his trade every day, and one evening he came to my office bringing a small calculus in a somewhat softened and disintegrated condition. The use of piperazine has been continued at intervals whenever the uric acid sand has appeared, thus keeping him from attacks of colic until the present time.

Case 2.—Mrs. N., 30 years of age Until five years ago enjoyed the best of health; at that time she suffered from severe pain in the right side, which was accompanied by great prostration and vomiting. She continued to suffer from these attacks of pain for a period of nearly two years. At this time she came under my care. Repeated observation of the urine detected cellular elements of the kidney and ureter, a small quantity of free blood, an occasional trace of albumen, and large quantities of uric acid sand. On the day following her first visit to my office she experienced a severe hemorrhage from the urinary tract, accompanied by atrocious pain in the left side. She immediately began to suffer repeated attacks of left renal colic, and for a period of almost a year she never suffered another pain on the right side. She had repeated hemorrhages, amounting to four or five a week often, and in spite of potassium and lithium salts, dietary restrictions, and free water drinking, large quantities of uric-acid sand were continually passing. After six months' treatment on these lines had proved unavailing she was put upon the use of twenty-five grains of piperazine dissolved in five pints of distilled water, to be drank during the twenty-four hours, which she continued for a period of over seven months. Four or five times, on account of slight vesical irritation, I was compelled to stop the administration of the drug for a few days. Within less than eight weeks after beginning the use of piperazine the uric acid was materially diminished, the hemorrhages but rarely occurred, and the attacks of renal colic had practically ceased. At no time has there been passed other than uric-acid detritus that looked much like broken-down calculi; no formed calculus has ever appeared. It is now nearly eight months since I have heard from the patient. The last time I heard she had not taken the piperazine for nearly six weeks. No blood or albumen was present in the urine, and uric-acid sand was very rarely seen. The probabilities were strong that the right kidney was practically destroyed, which was probably the reason that the pain had disappeared from that side.

Piperazine water has since been suggested to me, and it seems to me that its use would be far more pleasant because of its being carbonated, and more active, since we should always have the proper dilution, and thus obviate one of the difficulties experienced, namely, that of inducing patients to take the drug with a sufficient quantity of water.—*New York Medical Journal, September* 29, 1900.

72.—ON ENURESIS AND "IRRITABLE BLADDER" IN CHILDREN.

By Frederic Bierhoff, M.D., Berlin,
Assistant, Genito-Urinary Division, Berliner Allgemeine Poliklinik, &c.

[The following remarks are made under Treatment :]

Phimosis, redundant prepuce, preputial adhesions, epispadias, and hypospadias, I believe to be factors in the condition only in so far as they may cause urethral congestion, or inflammation, and through making infection of the urethra or bladder more easily possible. In urethritis, or vulvo-vaginitis, the discharge must in every case be microscopically examined, to determine the gonorrhœal or non-gonorrhœal character. In every case the urine must be examined for albumin and sugar. If turbid, the cause of the turbidity must be determined by chemical and also by microscopical examination. In this manner nephritis, diabetes, phosphaturia, bacteriuria, cystitis, tuberculosis vesicæ, &c., may be determined. Should the urine contain blood, examination must be made to determine the source, whether vesical or renal, and also the cause. Where the age of the patient will permit, or where the condition makes an exact examination and diagnosis imperative, as in cases where the urine is purulent or hemorrhagic in character, or where there is a suspicion of calculus, I consider cystoscopic examination, under the influence of general anæsthesia if necessary, to be indicated and justified, especially since modern skill has given us instruments fitted for use in the bladder of the child which enable us to make an accurate diagnosis of the condition with the minimum of risk to the patient. Where onanism is suspected, the child must be most carefully watched.

Phosphaturia, oxaluria, hyperacidity, &c., I believe to come into play as causes of enuresis or vesical hyperæsthesia only after they have produced hyperæmia or inflammation at or near the sphincter vesicæ—in other words, only after they have destroyed the superficial epithelial layers of the vesical mucosa.

The treatment resolves itself into that of the local vesical or urethral condition, as well as of the remoter factors. In considering the treatment I cannot do better than refer to the admirable and comprehensive article of our own master, Jacobi, with whose words upon this subject I agree completely. The general health of the child must be looked after and treated, if depreciated, not only by dietary but also by hygienic and hydrotherapeutic measures. Above all, I would warn against corporal punishment or anything which savours of brutality, for these can only serve to increase the general nervous depreciation. Furthermore, all severe mental strain should be guarded against. The digestive tract must be looked after, and indigestion, constipation, diarrhœa, or intestinal parasites removed by appropriate treatment. The evening meal especially should be light and easily digestible. The genital tract, too, must receive appropriate attention; phimosis must be reduced, adhesions ruptured. Above all, the glans penis and preputial sac must be frequently cleansed, as from this point in many cases infections of urethra or bladder have their start. Vulvitis or vaginitis, as well as urethritis, must be treated with reference to their gonorrhœal or non-gonorrhœal character. In the former I should strongly advise the use of protargol, in ½ per cent. solution. If due to other bacteria, then the solution of bichloride of mercury, 1:15,000, will give most gratifying results, the discharge usually disappearing in a very few days. If bacteriura be present the internal use of urotropin in appropriate doses, combined with irrigations of the bladder by means of the sterilised catheter with solution of nitrate of silver, 1:5,000 or stronger if the patient tolerates it, will give excellent results. The treatment of cystitis depends to a great extent upon the cause; those cases which depend the presence of a vesical calculus, or of a foreign body, or upon pyelitis, cannot be cured until the causative factor has been removed. Consequently this must first be sought for and appropriately treated; afterward vesical irrigations with 1 per cent. boric acid solution, followed by the instillation of ¼ to 1 per cent. solution of nitrate of silver, the latter being, after three to four minutes, allowed to flow off and the bladder subsequently irrigated with boric acid solution, will give excellent results. The polyuria of diabetes or of nephritis must be appropriately treated. That due to the imbibition of large quantities of fluid may be influenced by the restriction of the quantity ingested. I hold it to be a wise precaution to restrict the quantity of fluids taken during several hours before retiring. Onanism must be guarded against by watching the children and by examination for and treatment of the underlying cause ; this may frequently be found by watching the playmates. The enuresis which at times accompanies the pelvic congestion of menstruation, preceding or accompanying the flow, is best treated by hot sitz-baths. Disease of the respiratory organs, which interfere with proper breathing, such as nasal obstructions, adenoids, or hypertrophied tonsils, must receive appropriate treatment. Similarly also, disturbing, itching skin eruptions, which act, like those of the respiratory tract, as causes of enuresis, by disturbing sleep.

Concerning the results of faradisation of the urethra I cannot speak, as I have not employed it. Where the size of the urethra will permit, the use of small sounds or of the small-sized psychrophore ought to prove of value where the condition is due to congestion in the membranous or prostatic urethra. In the female, pencilling of the entire urethral mucous membrane, from and including the sphincter to the meatus, with $\frac{1}{4}$ to $\frac{1}{2}$ per cent. solution of nitrate of silver, by means of the endoscopic tube, every second day, gives excellent results. Of drugs, bromides, chloral hydrate, rhus aromatica, belladonna and atropine, ergot, nux vomica and strychnine have been recommended, belladonna and atropine especially being highly spoken of. The treatment which has given me the greatest satisfaction, both in adults and children, has been the following : Where the patients were too small to admit of direct local treatment, hot sitz-baths once or twice daily, the appropriate treatment of accessory causes, the restriction of fluids in the evening, combined with a light evening meal ; at night, where possible, the child was laid so that the head was lower than usual, either by laying a pillow under the hips, or, better still, by removing the pillow from under the head and raising the foot of the bed. Where local treatment was possible, applications in the endoscopic tube, especially directly to the sphincter itself and the mucous membrane of the trigonum vesicæ, or by vesical irrigations and instillations. In this way proper diagnosis and properly applied treatment will usually effect a cure in from a few days to a few weeks.—*Pediatrics*, *September* 1, 1900.

Surgery.

GENERAL SURGERY AND THERAPEUTICS.

73.—GENERAL ANÆSTHESIA.

By C. Hamilton Whiteford, M.R.C.S., L.R.C.P.,
Anæsthetist to the South Devon and East Cornwall Hospital.

[Mr. Whiteford gives some account of 1,000 cases, and thus speaks of the treatment of emergencies :]

Treatment of emergencies.—Judging by some of the cases reported from time to time in medical literature, medical men occasionally lose their heads on the occurrence of an emergency during anæsthesia, and in some cases the loss of reasoning power persists to such an extent that they publish the case, with the treatment adopted, as being worthy of imitation. Only mental aberration will account for cases reported within the last few years where a patient is given ether, becomes cyanosed with feeble pulse, is then hung head downwards, and has more ether injected under the skin; or where, for a patient known to have œdema of the glottis, ether, which effectually closes the already narrowed rima, is selected as the anæsthetic; entry of air is mechanically prevented, yet artificial respiration is attempted for a quarter of an hour, but no effort is made to open the trachea. Such cases as the above are the result of unreasoning and indiscriminate application of routine methods. The ordinary treatment of emergencies arising during anæsthesia is too well known to be entered into here, but there are two causes of collapse and their treatment to which I will refer :—(1) Cooling of the patient by exposure of either the cutaneous surface or the viscera. (2) Loss of blood.

To prevent the first, care should be taken to see that the patient is thoroughly warm before the anæsthetic is given. It is illogical to anæsthetise a patient in a cold room on a cold table, and then carry him to a warm operation table in the hope of warming him again, as the exposure necessary for the operation effectually neutralises any additional warmth which may be obtained from the table. When the operation table is warmed by such means as a hot-water bed, it is essential during a long operation to test from time to time the heat of the water, and when it cools, to have it partly replaced by hotter water or supplemented by extra hot bottles. The water bed must always be hotter than the patient; it will not get absolutely cold, as it is being kept warm by the patient, who loses a corresponding amount of heat in the process. Stimulants, such as brandy and strychnine, injected hypodermically, by improving the circulation help to maintain the warmth of the patient. Hypodermic injections for collapse should be made deeply into the muscles of the trunk, or of a limb near the trunk, and not beneath the skin of the extremities where, in a collapsed patient, the lymph circulation is practically *nil.* The pectoralis major is a useful muscle into which to inject, especially if artificial respiration is being performed, as the movements largely help to massage the fluid on into the general circulation. It is illogical to inject ether into a patient who has been inhaling ether; he is already saturated.

To remedy both the first and second, intravenous injections of hot sterile saline solution, up to six or more pints, with the addition of strychnine or brandy, should be made. Running in the solution by a funnel and tube does very well, provided the symptoms of collapse are not urgent and the solution continues to run; but every now and again, after injecting one or two pints, the funnel and tube fail to act. The cause of this failure apparently lies in some ill-understood condition of the patient's vascular system, as the difficulty persists after the patency of the cannula and tube has been demonstrated and the height of the column of fluid increased to six feet. I have seen this occur on several occasions, on one of which the patient died without the chance which a free supply of saline solution might have given him. In my own practice, I always inject it by a cannula fitted to a Higginson's syringe. I have done this frequently, and have never seen a bad result from injecting slowly but forcibly. The objections to this method are, I believe, theoretical. With the Higginson's syringe tied to the handle of a large jug, one pair of hands can easily manage the injection, which is a great advantage when operating in private. After cœliotomy, I have on several occasions filled the peritoneal cavity with hot sterile saline solution, thus providing the patient with an internal hot-water bag, which I find very useful in combating shock.—*Bristol Medico-Chirurgical Journal, September*, 1900.

74.—MEDULLARY NARCOSIS.

By S. MARX, M.D., New York.

[The following is taken from Dr. Marx's paper upon "Medullary Narcosis during Labour." The cases and other parts are omitted :]

Technique.—From an increased experience, the position of the patient for an easy, successful puncture is the exaggerated inclined one, *i.e.*, the scorching (bicycle) position. When for any reason the patient cannot sit up, a right or left sided posture with arched back, the head in an elevated position, is the next best one. When so placed there is a distinct curve in the lumbar region with the convexity downward. This has a tendency to increase the space between the individual vertebræ, and the puncture is made from the convex side. When the puncture fails, *i.e.*, inability to get spinal fluid, the other side may be tried. It is always absolutely necessary for successful anæsthesia to enter the spinal canal ; in other words, a *sine qua non* to an absolute analgesia is the escape of subarachnoid fluid before the cocaine solution is injected. By the escape of fluid I am in positive position to state that the needle is in the space. There is no other absolute guide. My primary trials in the first three cases were absolute failures, for this important landmark was unknown to me and consequently omitted. Since I have depended on getting a fluid tap I have never failed to get a perfect anæsthesia. As a rule the puncture is very easily done, but in some few cases there has been the greatest difficulty in its performance. In one case six distinct punctures were made before the tap revealed fluid. In one case with an antecedent lumbar disease I failed absolutely, and was compelled to make the injection in the dorsal region, and then with good success. The operation was an abdominal hysterectomy, and when the abdomen was opened the lumbar lesion was readily noted. The patient's back, from the coccyx to the middle of the dorsal vertebræ, is rendered absolutely sterile after the usual methods, even as the abdomen is sterilised before abdominal section. The parts are surrounded by sterile towels. A finely tempered needle, 10 cm. long, is employed with a solid metal hypodermic syringe, both of which are boiled for ten minutes. The patient having been placed in position, the thumb of the left hand is placed on the spinous process of the fifth lumbar vertebra. This point may readily be found by locating the deep depression between the spine of the fifth lumbar and first sacral, the posterior landmark of the external conjugate ; or, in very fat women, a line drawn joining the highest points of the crista ilii will pass over the centre of the fourth lumbar vertebra, and is a reliable guide. The needle is inserted immediately in front of and just outside the edge of the thumb at an angle of about 165 deg. The direction of the needle is slightly from below upward and without inward. If the point strikes the lamina, it is to be moved gently up or down until the space between the vertebræ is felt. The point is pushed in very slowly and gently in a downward direction until the clear, limpid spinal fluid runs out drop by drop. If the tap brings pure blood it is, in my experience, beyond the canal, and gradual withdrawal will usually bring success. Should clogging of the needle be suspected, then it can be cleared by the stylet. Immediately fluid runs out, the barrel of the syringe is screwed on and the cocaine injected. From ♏x. to xv. of a two per cent. cocaine solution is used, representing between 1/5 gr. to ¼ gr. of the salt.

Within from two to fifteen minutes anæsthesia is ushered in, occurring rather suddenly, occasionally preceded by a marked hyperæsthesia. Operating can usually be commenced as soon as firm pinching or pulling upon the labia minora elicits no pain. If at the end of fifteen minutes the desired result is not obtained, the injection may be repeated ; or if, after complete anæsthesia, the sensation of pain returns, the same dose may be repeated. Thus I have injected three-fourths of a grain in one hour in a rebellious case without bad results. The cocaine solution to be efficacious must be freshly prepared, or else it becomes inert from frequent sterilisation. Eucaine I have found valueless ; Schleich's infiltration tablets I have found of little value. The area of anæsthesia varies considerably, and cannot be influenced by either the dose given or the force with which the solution is thrown in. In some cases the whole body from the neck down is absolutely in an analgesic condition. In all cases the patient is void of sensation from the umbilicu down.

The anæsthesia lasts from one to five hours. Complications of a severe grade have never occurred. Disagreeable feature frequently occur ; in fact it is a rule to have them present, but fortunately their effect is very transient, lasting from eight to twenty-four hours. There are frequent nausea, vomiting, severe headache, profuse perspiration, chilly sensations, temperatures up to 102 deg. to 103 deg. F., probably all due to a shock to the central nervous system or to a disturbed intraspinal pressure, whether diminished or increased I am not prepared to state. Fortunately when severe these symptoms can be readily controlled by nitroglycerine 1/100 gr. alone, or combined with small doses of morphine. I have tried to anticipate these symptoms by combining morphine with the cocaine, but the results were not satisfactory. In fact in one case in which 1/6 gr. morphine was injected into the canal I got dangerous symptoms of morphine poisoning, showing how strong is the absorbing power of the spinal fluid. Lately I have had good results by injecting hydrobromate of hyoscine 1/200 gr. as soon as the symptoms arose. In a limited experience with this drug I would suggest its use by the ordinary hypodermic method as soon as the cocaine is administered, or else its use immediately on the occurrence of the nausea and vomiting, which are always the earliest symptoms to arise after the puncture.—*Medical Record, October* 6, 1900.

75.—THE FALLACIES OF X-RAY DIAGNOSIS.

[The following is a leading article in the *New York Medical Journal*, July 14, 1900 :]

We have never sought to belittle the value of Roentgen-ray photography in diagnosis, but we have felt from the time when the announcement of Professor Roentgen's discovery was made that there was danger of its being overestimated. Such a startling and unprecedented novelty as a means of seeing into and through opaque objects could not fail to impress unduly those enthusiastic individuals—and they exist in our profession as well as among the rest of mankind, though not, it is to be hoped, in quite the same proportion—who voice their unquestioning credulity by such a cry as, for example, "the machine can't lie," the "machine" being either an ordinary photographic camera or the apparatus employed in making Roentgen pictures. But it has long been known that common photography is capable of distorting the truth to a grotesque degree, and it seems that the Roentgen-ray picture may do the same thing. This is most cogently set forth in the report of a committee appointed by the American Surgical Association three years ago to report upon the medico-legal relations of the x-rays. The committee's report was presented at the association's recent meeting by its chairman, Dr. J. William White, of Philadelphia, and is printed in the July number of the *American Journal of the Medical Sciences*.

Among the instances of erroneous x-ray observations reported to the committee or mentioned by it as recorded in recent literature we may cite the following:—(1) Dr. B. Farquhar Curtis's case in which a headless pin was supposed to have lodged in the œsophagus, and a scratch on the glass under the gelatin caused what at first seemed to be the shadow of the pin. Fortunately it was perceived that the outline was too irregular to be that of a pin, no operation was performed, and the pin was passed by the anus. (2) Dr. W. J. Dodd reports the case of a man who was shot in the upper part of the thigh. The scrotum was filled with blood, and a fluoroscopic examination indicated what appeared to be a bullet imbedded in the testicle, but an operation showed that the testicle, though diseased, contained no bullet. (3) In a case mentioned by Dr. W. L. Estes some bits of clothing, coagulated blood, &c., made a shadow which was supposed to be that of a bullet. (4) Dr. Christian Fenger reports a case of two ineffectual operations for the removal of a needle the situation of which was apparently shown by the x rays, but which could not be found. (5) Dr. J. E. Moore writes: "Yesterday an ineffective operation was performed at Asbury Hospital, of Minneapolis, by a very competent surgeon. The skiagraph showed an open safety pin in the trachea, just below the third ring. An opening and thorough search in both trachea and œsophagus failed to reach the pin." (6) Dr. John Owens reports that in a very troublesome case of fracture of the radius and ulna near the wrist, in which one of the bones was wired, the Roentgen picture seemed to show that the wire did not pass through the fragments. (7) Dr. F. S. Watson relates a case in which pictures taken at different times showed a needle in the foot in various situations. It was found at last, but not in the spot shown in any of the pictures. (8) In a case of Dr. De Forest Willard's, Roentgen pictures taken at different angles indicated the situation of a bullet to be in the knee joint, at the inner condyle, but it was found firmly imbedded in the posterior surface of the tendon of the patella. (9) Dr. R. H. Reed (*Journ. of the Amer. Med. Assoc.*, April 30, 1898), has reported a case of faulty localisation of a swallowed pin leading to fruitless exploration of the stomach and œsophagus by gastrotomy and a subsequent decision to perform laryngotomy, which was prevented only by the patient's dying on the table from the rupture of an abscess into the trachea. The pin was found at the bifurcation.

The committee's data show clearly that our present ability to draw accurate conclusions from Roentgen-ray pictures is often very limited, especially in cases of fracture. There is great danger that misleading pictures, which may be made either erroneously or by design, may be admitted as evidence in malpractice cases; yet, how untrustworthy they are, when unsupported by other evidence, is shown by the facts that good clinical results in fracture cases, without impairment of function or palpable deformity, may be made to appear very bad ones in the pictures, and even that fractures may be shown that have no existence, while others known to exist in a recent stage are not shown. Clearly no conclusion in fracture cases can be invariably based upon Roentgen-ray photography alone, and it is well that such an important body of surgeons as the American Surgical Association has so expressed itself by unanimously adopting the conclusions reached by its committee.

76.—THE TREATMENT OF FRACTURES.

[The following is an editorial written by Mr. Sinclair White :]

The discussion on "the methods at present available for the treatment of simple fractures" constituted the most important item in the Surgical Section of the recent meeting of the British Medical Association. It was opened by Mr. Wm. H. Bennett in an address which should be studied by every surgeon. Mr. Bennett adopted the painstaking but admirable plan of sending a circular letter to hospital surgeons and others likely to have a large experience in the treatment of fractures, asking for information on certain specified points. The replies he received have been classified and freely edited in the light of his own ripe experience. He is in favour of passive movements of the fractured limb almost from the commencement. While agreeing entirely with him as to the value of passive movements conjoined with massage, we do not think there is anything to be gained by commencing these before the end of the first week ; indeed harm may result from such a procedure in fractures near the elbow and shoulder joints where the fractured ends are easily displaced. Again, as was pointed out by a subsequent speaker, the process of organisation does not begin until after the first week, and movements previous to this can only be looked on as meddlesome. Moreover the bruised tissues, full of extravasated blood around the fracture, are at first not in a condition to bear even delicate massage.

Accepting the principle that massage and passive movements should begin during the second week, it follows that plaster-of-paris and other immobilising apparatus that cannot be readily taken off are out of court. Many who have long been accustomed to their employment, and have found them on the whole satisfactory, will continue to use them, but they undoubtedly delay union and sometimes lead to prolonged stiffness and weakness of the limb. In simple fracture of the long bones, if we except spiral fractures of the lower end of the tibia and certain fractures near to the elbow joint, operative treatment is rarely if ever required. When resorted to, wiring is held to be more satisfactory than the employment of screws.

Mr. Bennett's enquiries respecting fracture of the patella disclose the unpleasant fact that operation for this lesion is by no means devoid of risk to limb and even to life, and although many surgeons can show long series of successful cases unbroken by a single failure, still in the hands of the general body of surgeons, accidents, for the most part due to sepsis, do occur from time to time, and, as one speaker pertinently remarked, an accident here is of the nature of a tragedy. On the whole we agree with Mr. Bennett that the operation should be restricted to cases where there is a wide separation of the fragments, in healthy patients, under the age of fifty years. We would like to add that under no circumstances should it be undertaken by surgeons unless they have attained from experience absolute confidence in their ability to secure asepsis. In spite of numerous modifications, Lister's original plan of opening the joint, clearing away blood clots, and uniting the fragments by silver wire which does not penetrate the articular cartilage, and is therefore extra-articular, is by far the best, and should always be adopted. Passive movements and massage should be diligently practised from the end of the first week. Wiring, if properly done, gives ideal results, and what is often of much consequence, very materially shortens the period of disability. Mr. Bennett has not much to say in favour of wiring the olecranon, and finds that "with few exceptions, perfect results are obtainable without operation."

We regret that fractures and epiphyseal separations at the lower end of the humerus did not receive greater notice in the discussion. There are few fractures that give rise to more annoyance and disappointment than these lesions in children, and we are quite certain that more often even than in fracture of the patella they require wiring. Since the passing of the "Workmen's Compensation Act," the diminution of wage-earning capacity following upon fractures has become an acute problem, and Mr. Bennett's views on this subject will be greatly appreciated by surgeons who are called upon to state the amount of incapacity likely to follow fractures in workmen. He is very emphatic that the evil results following fractures have been in certain quarters greatly exaggerated; and that where genuine disability does occur it is usually due to matting of the soft parts about the fracture and around the joints above and below it—a condition of things which might to a large extent be avoided by early passive movements and massage.—*The Quarterly Medical Journal*, *November*, 1900.

77.—THYROID MEDICATION IN THE TREATMENT OF DELAYED UNION OF FRACTURES.

By Dr. R. W. MURRAY.

The author (*Annals of Surgery*, June, 1900) states that the changes in the growing skeleton due to the loss of function of the thyroid gland may be summed up as an arrest, in a high degree, of the growth of the bones in length ; a material delay in the ossification of the epiphysial cartilages and synchondroses ; and, finally, the presence for an abnormal length of time of a bony plate at the site of the former epiphysial cartilage. There are nineteen reported cases of delayed union in which thyroid extract has been employed, of which thirteen are reported as successful and six as failures.

Before deciding to use the thyroid one should consider the cause of non-union in the individual case, whether it is due to some constitutional condition which may be corrected by appropriate medication, or whether there may be some local cause which can be removed only by operation. In the absence of such causes, the thyroid treatment is indicated, and should be resorted to in preference to resorting to any of the numerous operations which have been devised to effect union. The treatment should be started with small doses, as serious symptoms may follow too large a dose. Tablets or capsules, each containing two grains of the thyroid extract, are sufficient to start with, then gradually increasing the amount every few days, and watching carefully for any unpleasant symptoms. Overdosing may produce an effect opposite to that which is desired, as it has been observed in cases of infantile myxœdema that in the presence of too large doses, while the bones steadily increase in size, they still remain soft. It should not be forgotten that the heart and kidneys should be carefully examined before resorting to this form of medication, as it is contraindicated when these organs are diseased.

From the results in these cases thus far reported, and from the fact that under medical supervision the thyroid therapy is not dangerous, we are justified in recommending the trial of thyroid treatment before proceeding to operative measures.—*Abstract in Therapeutic Gazette, September* 15, 1900.

78.—PENETRATING WOUNDS OF THE SKULL.

At a recent meeting of the Paris Surgical Society, M. Walther communicated a case of penetrating wound of the cranium produced by revolver bullet, and cured by trepanning. It was a case of attempted suicide by a man of 38 years of age. The projectile entered through the temporal fossa, and although no alarming symptoms had set in, the trepan was applied, and when the piece of bone had been removed, the dura mater was found perforated, and at a slight depth the operator was fortunate enough to find the foreign body, which he removed. The patient recovered very rapidly. M. Regnier considered that the case was a particularly fortunate one, as the apparatus of Contre-moulin for detecting the position of the foreign body had not been used. The speaker, thanks to that instrument, was able, in a recent case, to discern in the right hemisphere the presence of a projectile, which had penetrated from the opposite side. M. Debus said that eighteen months ago he treated a case of the kind ; the ball had penetrated into the sub-orbital region, and the probe made him believe that it took a direction upwards and inwards, but the radiograph, on the contrary, showed that it followed a horizontal line to the occipital region. He thought that in every case of penetrating wounds the radiograph should be used.

M. Reclus was of the same opinion. It was not good practice to plunge into the brain without having fixed on the situation of the projectile. If we had not the x-rays to help us, abstention should be observed until some symptom guided the surgeon, who should then content himself with free opening of the seat of the traumatism and the removal of all pieces of bone, as well as the projectile.

M. Quénu was, however, of a contrary opinion. For his part he looked on the ball as a foreign body, septic of itself, or by the *débris* it produced ; consequently, it was in the interest of the patient to remove the projectile as soon as possible. In every case of penetrating wound of the brain, he operated immediately in enlarging the osseous wound, and several times he was able to extract the ball when it was not situated too deeply.

M. Tuffier considered the radioscope, applied in the search of projectiles in the cranium, necessitated dangerous manœuvres when executed immediately after the traumatism ; it only rendered good service at a more remote period. As to the immediate treatment of penetrating wounds produced by projectiles, he followed the practice recommended by their honourable colleague, M. Gérard-Marchant, which consisted in immediate trepanning without awaiting the radiographic examination. That intervention permitted the antiseptic treatment of the tract of the foreign body, the removal of splinters, and frequently the extraction of the projectile.—*Report in Medical Press and Circular, November* 14, 1900.

79.—SHELL WOUNDS IN LADYSMITH.

By Major J. F. Donegan, R.A.M.C.,
Officer Commanding No. 18 British Field Hospital.

[From Major Donegan's notes :]

The hospital during the early part of the siege of Ladysmith was located in the Town Hall, and nearly all the serious cases were brought there, more particularly civilians wounded in the streets. Slight wounds, except in a few cases in which fragments of shell were completely spent, or in which the shrapnel burst too high in the air, were almost invariably caused by injuries from bits of stones, mortar, or fragments of substances near which the shell burst. To form some idea of the frightful injuries resulting from shell wounds, it is necessary to understand some minor details about the shells themselves. The 6-inch shells, popularly known as " Long Toms," were of the following varieties :—(1) Time shrapnel, which burst in the air ignited by time fuse ; (2) segment shell : an iron shell of about 2-inch thickness, with numerous segments of iron arrayed inside ; also leaden bullets ; (3) common shells ; (4) percussion shrapnel. The measurements were as follows :—Length, 20 inches ; circumference, 19 inches ; and diameter, 6 inches. The weight was 96 lbs. ; the bursting charge 6 lbs. of melinite ; and the striking power about 42 tons. There were also shells from the 4·7 inch gun, from the Maxim-Nordenfelt field guns, high velocity (2½ inch diameter), and a spherical shell from an antediluvian mortar. The greater number of patients admitted were wounded by " Long Toms." People who were injured by the direct shell before it burst were killed instantaneously, with one remarkable exception, which will be alluded to subsequently. Most wounds then were caused by fragments, and they included some of the most frightful injuries imaginable. One poor fellow of the Gloucesters was admitted with the left thigh shattered to atoms, and the right thigh almost torn off at the hip-joint, the right radius and ulna pulverised, the chest wall smashed in on the right side, and the humerus of same side driven into the chest wall. He became unconscious soon after admission, and died in about three-quarters of an hour. An officer's servant was admitted some days afterwards with a shell wound through the back, tearing out the stomach from behind. Needless to say, his case was also hopeless.

Unfortunately shell wounds, like other misfortunes, do not come singly. They are far more likely to be brought to hospital in batches of ten or more. This then leads me to state what

I consider to be some important surgical axioms for warfare as far as shell wounds are concerned :—(1) See all the patients together if possible, send to bed those who can wait, and also those that appear to be beyond help. (2) Take first the most serious cases likely to be saved by surgical interference. (3) The next great essential is speed, both in the interest of the patient and others injured. In my hospital, if double amputations were required, officers did a limb each, so as to save time. In no case was this method followed by unfavourable results which could in any way be attributed to the system. Waiting till a steriliser is got ready is, in my opinion, unjustifiable. It must be remembered that the injured limbs are probably rolled up in dirty putties covered with mud and filth, that the operating tent is usually pitched on soil, that the operator's clothes are not immaculate, and that the patient's clothes are invariably filthy. The minute aseptic precautions of a London operating theatre are impossible. Soap and water, boiling water for irrigation, antiseptic solution and antiseptic dressings, are all a military surgeon can expect. Sterilisers, sprays, and such complicated appliances are most suitable for a base hospital, but out of place in a hospital on the field. I have seen capital operations done in my hospital in the Town Hall, when the shells were bursting outside the operating room in the street. On one occasion one of the hospital staff who was boiling water was killed by a fragment of shell. One of these operations happened to be trephining for a depressed fracture with open wound of scalp. From this statement some idea can be formed of the difficulties an army surgeon has to contend with.

The cause of death in almost all shell wounds was shock ; no matter what the injury was, a fair prognosis could be arrived at by noticing the patient's general condition. In many cases in which amputations were performed immediately with very little loss of blood, the patient died about three or four hours after the operation. It therefore became a standing rule in my hospital not to operate when there was much collapse or shock. Active measures were postponed till the patient was strong enough to take chloroform. All the double amputations done in my hospital and elsewhere during the siege were unsuccessful with the exception of the case of a sergeant of Royal Artillery, which is worthy of record.

He was wounded on January 6, 1900, in the attack by the Boers, being hit with a direct 6-inch shell, and fortunately he was brought to the hospital within half an hour of receiving the injury. On admission the left arm was found completely shattered up to within six inches of the shoulder-joint, and the left thigh and leg smashed up to within eight inches of the hip. By temporary tourniquets the hemorrhage had been stopped, and there was not much collapse or shock, strange to relate. I told him that a double amputation would be necessary, and he replied, "All right; do me as soon as possible, sir." Chloroform was administered; one officer removed the leg and the other the arm. In 38 minutes the patient was in bed and conscious after chloroform. His temperature was 100° F. on the evening of the accident, and 99° F. the next morning. It remained at this level till January 10, when it fell to normal, and the stitches were removed, as the wounds had begun to heal by first intention. He made an uninterrupted recovery, and fourteen days after the accident both stumps were completely healed.

Had the most minute aseptic details been attended to, this case would have been looked on as a triumph for antiseptic surgery, but in reality turpentine, hot water, and soap were all that was used, the instruments being absolutely clean but not sterilised. I attribute this man's recovery to his wonderful constitution and stamina, to his marvellous pluck and courage, and also to the dexterous and rapid manner in which the operations were performed by Captains McDermott and Erskine, R.A.M.C., followed by the most careful nursing on the part of the hospital staff. The way he rapidly regained strength was due to the excellent food, which he received from outside sources, particularly from officers; Colonel Dartnell, C.M.G., for instance, brought him eggs and custards every day when they were almost unprocurable in the garrison.

The subsequent treatment of amputations from shell wounds in no way differs from the treatment of similar operations from other causes. Flesh wounds from shell were invariably followed by severe constitutional disturbance and profuse suppurations from injury to surrounding tissues. All shell wounds, even simple contusions, were followed by a rise of temperature, and superficial bruises were slow to recover, being followed by marked immobility and subcutaneous extravasation of blood. I am not aware of any other details of interest associated with shell wounds, and as the majority of cases were transferred to Intombi Camp, which was on neutral ground, the medical authorities there are more competent to judge of subsequent results and treatment than I.

In conclusion I must allude to the absolute terror of the report of a bursting shell on the part of a person once injured. As my hospital was located in buildings in the town, the large majority of shells from Bulwana Heights passed over it. I have frequently heard the wounded cry out in terror at the report of a shell over the building, and yet I have seen the same men after recovery look on in casual indifference at shells bursting some yards off, which proves that their fright was not due to natural timidity.—*British Medical Journal, June* 9, 1900.

80.—SOME EXPERIENCE OF BULLET AND OTHER WOUNDS IN SOUTH AFRICA.

By THOMAS JONES, F.R.C.S.,

Professor of Surgery, Owens College; Surgeon Royal Infirmary;
Surgeon in Chief Welsh Military Hospital, Springfontein,
Orange Free State.

[From an article sent from South Africa shortly before Mr. Jones's death :]

The Manchester contingent, including myself, were sent to No. 8 General Hospital. Here we had various duties detailed to us, I being appointed consultant to the surgical cases, few in number, although among them were some of considerable interest, and I thought perhaps the readers of the *Chronicle* would also be interested in them. The first, which is also the most important, was a Gordon Highlander shot through both popliteal spaces at the battle near Thaba'Nchu, on April 30. The bullet (Mauser) entered on the outer side of the right limb and eventually emerged on the inner side of the left limb. In its course it passed through the right popliteal artery. Free bleeding took place from the vessel, the blood spurting to a distance of a few yards. Field dressing was applied together with an improvised tourniquet, which had to be left on for several hours. The injury was sustained on a Monday, and he was admitted into No. 8 General Hospital a week afterwards, conveyance by bullock waggons being the only means of transport. When admitted the right foot and leg up to the middle were gangrenous, and a fairly marked irregular line of demarcation had already formed. Almost daily for several days there were small hemorrhages from the wound of entrance. Amputation, through the lower third of the thigh, was performed by Mr. Stott, of Leeds, on May 14. On examining the injured artery it was found that the bullet in its passage through it had carried away about ⅝ of an inch of its inner wall, and in this situation a small traumatic aneurism had formed. The progress of the patient has been slow, and somewhat retarded by the formation of a subcutaneous abscess at the seat of the pressure on the femoral to arrest the bleeding at the time of the injury.

The other cases which came from the same battlefield also presented points of interest. In one the bullet entered 1 inch below the clavicle, ¾ inch inside the coracoid process, and came out $\frac{3}{4}$ inch above middle of upper border of scapula without producing any injury to any important nerve or artery, if one may judge from symptoms. The sensation conveyed to the patient was that he had been struck with a whip.

In another case a man was shot through the soles of his feet, the bullet lodging in the left sole. He merely felt a stinging pain as if someone had taken a hammer and "knocked his feet up." The three wounds have healed. It might, however, be advisable to remove the bullet, as walking is very likely to be impeded, if not painful.

A remarkable case was convalescent when I saw him. The bullet entered the right second intercostal space in front and emerged on the same side of the body between the tenth and eleventh ribs, some two and a half inches from the spine. The only symptom was a slight hæmoptysis a day or two after the injury. It is merely a matter of conjecture what structures the bullet traversed between its entrance and exit; it, however, caused nothing more than a temporary disability, the man making an excellent recovery. Instances of the penetrative properties of the Mauser bullet with the production of few symptoms might be almost indefinitely multiplied. With Major McMunn in charge of No. 10 Hospital, I saw some remarkable instances. A bullet entered the back over the third dorsal vertebra and emerged on the right side of the neck, producing no symptoms.

A bullet passed in front of the cervical spine, behind the carotid sheaths, injuring the larynx, the patient suffering from a temporary difficulty of respiration. Shell injuries are usually much more destructive, but even from these there are some wonderful escapes. In an example at No. 8 Hospital a piece of a Pom-pom passed through a man's leg between the tibia and fibula without doing more damage than could be repaired in a few days. The patient recovered perfectly, and is very proud of his trophy. Very few fractures from bullet wounds have come under my observation. Two things are noticeable in connection with them, the infrequency of comminution and the rapid way in which the wounds heal, the fractures thus becoming simple. Only in the case of the so-called explosive bullets have I witnessed extensive comminution and free suppuration. When we get to work at our own hospital I hope to be able to forward particulars of some of the more interesting cases: appearances, however, suggest an early cessation of hostilities, so that very possibly the amount of surgical work yet to be accomplished is likely to be very limited.—*Medical Chronicle, July*, 1900.

81.—THE USE OF MASSAGE IN SPRAINS.

By WILLIAM H. BENNETT, F.R.C.S. Eng.,
Surgeon to St. George's Hospital, &c.

[From Mr. Bennett's paper :]

For our present purpose by a sprain is meant an injury to a joint, a muscle, or other soft parts by a wrench, a bend, or a twist. There is always some laceration of the tissues, but there is no open wound. In the case of a joint the injury always involves some tearing of the fibres of the capsule, synovial apparatus, or cartilage. There is pain of variable degrees, and there may or may not be effusion into the joint. Generally, if the sprain is of any severity there is effusion into the joint, if the effusion follows immediately upon the injury it is blood, if it follows a day or two subsequently it is due to synovitis. I must again crave your indulgence for emphasising such elementary points. The occurrence of this laceration in cases of sprain—which means, of course, a subcutaneous wound—led to the faulty practice of former times, which is even now, I fear, far too prevalent, of placing parts so injured for a long period in splints. This is the best possible method for facilitating the formation of adhesions and the perpetuation of muscle-waste, the main object of this mistaken treatment being to allow of the rapid healing of the wounded tissues—a point of comparatively small importance.

In order to make clear the plan of treatment which I use and which I strongly advise you to adopt in these injuries let us take the case of a man who has sprained his knee. At the time of his coming under observation—say a few hours after the injury—the joint is painful, swollen from effusion (probably for the most part blood), and any attempt at movement of the joint is resisted. The first indication is the removal of the effusion. With this object the patient is, if possible, sent to bed, and the limb is placed upon a light back-splint—a ham-splint being the most convenient—applied so that free access is left to the joint. Gentle smooth massage over the swollen joint is commenced at once. (In very severe cases this is sometimes resented at first by the patient, whose resentment, however, soon subsides when he realises the soothing effect which the gentle rubbing produces.) In the intervals of the rubbing fomentations of lead and opium may be laid upon the joint ; the opium soothes somewhat and the lead hardens the skin a little, which is useful in the subsequent management. From the first gentle passive movement of the patella is used, for the reasons which I have already sufficiently indicated. As soon as the effusion has distinctly commenced to subside, as is shown by the decrease in the tension of the joint, gentle passive movement (flexion and extension) is commenced, and if upon the commencement of the passive movement no increase of effusion occurs the splint is put aside altogether. When the patient comes under treatment immediately after the injury the splint can generally be dispensed with on the third day. With the discarding of the splint gentle massage of the thigh and leg is added to the rubbing of the joint itself, the passive movement and the massage becoming more and more thorough as the effusion subsides. A compress of the kind mentioned may be used in the intervals if it is comfortable to the patient. Treated in this simple way there are few cases of severe sprain of the knee in which the patient may not be getting about comfortably in a fortnight, at the end of which time another fortnight of methodical exercises, either in a gymnasium or by means of a "home" exerciser, will generally complete the cure. I have taken as an example a severe case requiring confinement to bed. The treatment of the milder forms is modified to the necessities of the case, the great points to be borne in mind being the necessity for avoidance of the use of splints after the effusion has commenced to subside, the immediate use of massage to the joint, and early passive movement. In all cases the early movements should be passive—the habit of sending the milder forms of sprains at once to the gymnasium is to be avoided. In no case of sprain should a cure be considered to have been obtained if any sign of wasting of muscle beyond that which comes from mere disuse remains. The longer the time which intervenes between the receipt of the injury and the commencement of the rational treatment the greater is the difficulty in rectifying the muscle-waste with its necessarily concurrent weakness, and in cases in which the parts have been long confined in splints a cure in the true sense is sometimes impossible.

The following points in the carrying out of passive movement in cases of sprain are of some moment. The first movements used should be those of the simplest kind ; for example, flexion and extension in the hip or knee, anteroposterior movement in the shoulder, abduction and adduction should then follow, and finally rotation and circumduction in joints permitting of that movement. This sequence, however, is always interrupted for the following reason, which is of paramount importance—*the last movement to be practised should be that which, so far as can be ascertained, was concerned in the production of the injury.* Let me make myself clear. Suppose for a moment that a severe sprain of the shoulder has been caused by a fall on the hand or elbow, the arm having been at the time widely abducted from the side—the damage will be probably about the inner aspect of the capsule or under the acromion. In such a case passive abduction should be the last movement practised, as it would be the movement most likely to irritate the part immediately lacerated or bruised. Although it should be the last movement to be commenced it should not, however, be long deferred, seven days being probably the limit of time which can with safety be spared before its commencement. Again in the sprain occurring in internal derangement of the knee-joint the injury is almost always caused by either internal or external rotation. In such a case, therefore, the last movement to be practised is rotation. Indeed, it is, speaking generally, better to avoid rotation altogether in that particular class of case.—*The Lancet, June* 9, 1900.

82.—THE TREATMENT OF ENLARGED GLANDS IN THE NECK.

By W. McAdam Eccles, M.S. Lond., F.R.C.S. Eng.,
Assistant Surgeon West London Hospital, &c.

[From Mr. Eccles' paper :]

The treatment naturally falls under two headings, the general and the local, and while one is equally as important as the other, the general is frequently as neglected as the local is pushed. The general treatment consists in the measures which should be adopted in every case of early tuberculosis. Of these there are two which stand out prominently, food and air. Good food, plenty of it, often taken and happily varied, will do more to enable the patient to overcome the ravages of the bacilli than any amount of medicine. Fresh air, all day long and at night, is another sheet-anchor. With this general treatment must be combined appropriate *local treatment.* The painting on of iodine not only is without the prospect of doing any real permanent good, but it is likely to create a false impression of benefit, which will, perhaps, allow much valuable time to be lost, and the opportunity of radical treatment at the best period to slip past.

There is little chance of resolution in a gland once infected, unless all sources of irritation or further infection are removed.

Whereas tonsillotomy and the curetting of vegetations was urged as a prophylactic necessity, so the same are essential for the proper treatment of the deposit in the gland tissue. As long as irritation in the way of fresh supplies of the infective virus is kept up, so long will all treatment, local as well as general, be valueless. And in connection with this fact of irritation, it is highly important that all carious teeth should be dealt with, either by cleansing and filling or by extraction. Likewise also, especially amongst the poor, an examination of the scalp must be made, so that all irritation from the presence of pediculi may be entirely removed, for unless this is seen to, recovery is very uncertain. The child, when recumbent, should have the head and neck surrounded by a horse-shoe sand-bag, which will assist to restrain the movements of the parts. To put it briefly, the major part of the local treatment consists in removal of all irritation, and the keeping of the affected parts at rest as far as is practicable ; but this method of treatment should not supersede operative measures, if the case is one that is unlikely to benefit from palliative treatment. An operation for the removal of enlarged glands in the cervical region may be one that is most simple, or one of the most difficult in surgery.

The operative measures that may be required are of two kinds—excision, and incision and scraping. The former is the ideal, but can only be carried out before the glands have become the seat of caseation, or at least where caseated glands have not been secondarily infected with pyogenic organisms. The latter is useful in those instances where the peri-adenitis prevents the easy or complete excision of the glandular tissue, and particularly where there has been extensive suppuration about the glands. As a general rule when all sources of irritation have been removed, and the glands persist in remaining the size to which they had attained, or even become still larger, and this in spite of general and local treatment, they should undoubtedly be excised. In preparing a patient for operation for removal of glands from the neck, asepsis is of extreme importance, for any suppuration will inevitably lead to a very disfiguring scar. The incision or incisions that have to be made in order that the diseased glands may be reached should be so planned as to cause the minimum amount of damage to the overlying tissues. The actual skin wound should be as short as possible consistent with an adequate exposure of the glands, and so placed that the resulting scar will be as little noticeable as can be. Occasionally it is requisite to divide partially, or even completely, the sternomastoid or other muscles, so that deeper dissection may be more easily carried out. Such division should, if feasible, be avoided, as there is always a tendency to some deformity, however well and accurately the fibres are sutured. Often, by an incision along both the anterior and the posterior borders of the sterno-mastoid, enough room will be obtained, and thus in the end less disfigurement will ensue. A gland lying superficial to the deep cervical fascia merely requires to have the tissues over it divided in order to allow of its being shelled out with comparative ease. It is in the deeper dissection that the utmost care is needed so as not to damage important vessels and nerves. If there has been little or no peri-adenitis, even those glands which are hidden away beneath the muscles can be fairly easily removed, provided that their surface is freely exposed. Sometimes, owing to previous inflammation of the tissues around, the glands become, as it were, incorporated with the adjacent structures, and in certain instances it is impracticable to separate them.

Hemorrhage is apt to be troublesome during the actual dissection, but it soon ceases if properly dealt with. All arterial twigs should be promptly secured with pressure forceps, and these, if possible, left on for a certain length of time, so that they may occlude the patent mouth of the vessel, and thus prevent the necessity for the application of a ligature. If a tributary of the internal jugular is cut across close to its entrance into the main vessel, a lateral ligature may be required, though in many cases the plugging of the wound with dry antiseptic gauze for a short while will effectually control the venous bleeding. Occasionally it may be necessary to leave the wound plugged for twenty-four hours, but this is to be avoided if it can be, as it tends to interfere with rapid healing. In operating in the lower part of the posterior triangle of the neck there is always a possible danger of air entering the veins, an accident which is nearly always fatal. If some of the glands are so adherent that it seems impossible to remove them without a considerable amount of danger to other parts, it is well to open their capsule and to scrape out the contents very thoroughly. If this is done there is not much likelihood of the healing of the wound being seriously delayed. The neck is to be kept at rest within a horse-shoe sand-bag, which, in addition to the bandages, tends to steady the parts. The dressing in the majority of cases does not need to be touched until the sixth or seventh day, when it may be removed, and the stitches cut out. The neck should be still maintained at rest for another three or four days, after which it may be released, but care should be taken to avoid any very extensive range of movement for a much longer period.—*Treatment, August*, 1900.

83.—ACTINOMYCOSIS OF THE JAW.

By Charles Allen Porter, M.D., Boston.

[From Dr. Porter's paper :]

The infection seems to enter most frequently near a carious tooth, or is carried in by a foreign body through the mucous membrane of the mouth or pharynx. The process is essentially subacute or chronic, and the disease tends to advance by a sinus towards the skin. Infection is rarely pure, but is usually mixed with ordinary pyogenic organisms or mouth bacteria. It is rarely painful, and the accompanying pain, when it occurs, is due, I think, to the mixed infection. Clinically and under the microscope the disease is characterised by the formation of an unusual amount of dense connective tissue, which ends more or less abruptly at the periphery, and infiltrates the adjacent muscle or fat. In the jaw the bone itself is rarely involved in human actinomycosis, though it may be thickened from periostitis. It would seem that this surrounding connective tissue could later become infiltrated by the growth of the streptothrix and break down. In all the cases I have examined the inner wall of the cavity shows a clearly cut line of demarcation between the connective-tissue wall and the lining—flabby, soft, greyish-red, granulating tissue. Glandular enlargement was conspicuous by its absence, and when present seemed to be due to mixed infection. Metastasis seemed to occur through the blood current, and not by way of the lymphatics. In serious cases the disease may progress down the neck, into the antrum or through the base of the skull.

Trismus, though often present, is no more characteristic of this disease than of other inflammatory affections, though if the masseter were involved in the dense connective tissue, the jaw would probably remain stiff for a long time. It is rarely possible, I think, to make a clinical diagnosis of actinomycosis ; recurrent abscesses, without necrosis, chronic, painless, subcutaneous abscesses, about the jaw, evidently not connected with tubercular glands, would lead to a suspicion of this disease. If these fluctuating areas were surrounded by especially firm and hard connective tissue, and a sinus could be felt under the skin, if there was little œdema and swelling, perhaps a probable diagnosis could be made. Examination of the discharge is of great assistance, but the mere presence of the so-called "sulphur granules" is not by any means conclusive, and no case should be considered as one of actinomycosis without competent microscopic examination. Small, round masses of fibrin or tubercular débris sometimes simulate a colony, in the mouth or adjacent regions. Round masses of mouth bacteria, or leptothrix buccalis, occasionally appear very like a true colony. Even under low powers the resemblance is very similar. Dr. Wright has kindly photographed for me one of these masses, removed from a patient's tooth. It presents a radiating arrangement, but under a higher power is seen to consist of vast masses of bacilli, and the large, thick, non-branching filaments of the leptothrix buccalis. In examining for actinomycosis, gauze sponges which absorb the discharge should not be used. All bleeding, when possible, should be stopped before opening the abscess wall. Unless badly contaminated, actinomycosis pus appears usually as a clear, perhaps blood-tinged, slightly syrupy seropus. Placed on a cover glass, the granules vary in size from a millet seed to the head of a large pin. They are usually round with a clear-cut periphery ; the colour is gray or grayish yellow, often suggesting a small pearl ; the centre is not rarely somewhat darker. The surrounding pus is non-adherent, and the granules can be readily removed alone. Fluid should be examined *at once*, for these granules are found with great difficulty when the blood has clotted.

With reference to treatment, two facts speak strongly, I think, for the self limitation of the disease in the majority of cases ; (1) Though it cannot be a rare affection, few cases enter the hospital with advanced actinomycosis of the jaw, and it seems therefore certain that many recover after simple incision of the abscess, and even through a natural rupture of it. (2) It is surprising to find, on microscopic examinations of sections, how infrequently the colonies are found in the walls of the abscesses, though the pus contained many granules. The surrounding connective tissue probably proves an effective barrier to the spread of the disease. Simple opening, curetting and drainage have proved sufficient in many cases ; though recurrences may be frequent, healing eventually takes place. Where possible, excision of the inner half of the abscess wall or sinus is the best treatment. The danger from swallowing the granules, where the discharge empties into the mouth, is hard to estimate. Certain cases of generalised disease in the lungs, intestinal tract, liver, &c., occur in which the organism gained entrance through the food, or was swallowed, and therefore the surgeon should aim at making *external* drainage. This question is often a difficult one to decide. On the one hand, he wishes to avoid a scar on the face, especially in women ; on the other, he wishes thoroughly to eradicate the disease ; for with recurrence the scars would probably be worse than from a single, thorough and clean operation. The individual case and the severity of the infection must determine the choice between curetting and cauterising the cavity with tincture of iodine or carbolic acid and a more radical excision. Iodide of potash, in doses of 20 grains three or four times a day, has distinctly influenced some cases for good, and should be used in connection with the local treatment.—*Boston Medical and Surgical Journal, September* 13, 1900.

84.—THE TREATMENT OF VERTEBRAL TUBERCULOSIS WITH REFERENCE TO THE FORCIBLE CORRECTION OF THE DEFORMITY.

Dr. John Ridlon opened this discussion before the American Medical Association. In the past three years he had straightened two cases of rheumatoid stiffening of the spine, and had operated upon eight lateral curvatures under ether, and more than 35 cases of Pott's disease. In the worst cases that he had treated he had gained at first one and one-fourth inches in height, and at the second attempt three-fourths of an inch. In all of the cases of lateral curvature almost all that had been gained had been subsequently lost; hence he no longer favoured straightening such cases under ether. In a case of rhachitic curvature he had gained nothing by the method. He had operated upon both old and recent cases of Pott's disease, and those with and without abscess. There had been two fatalities. One of these, a case whose previous and personal history had not been sufficiently studied, died of tuberculosis two months after operation. The other fatal case was one having an abscess at the time of operation. The child had done well for six or eight months; then two or three abscesses had developed, and death had finally taken place as a result of the exhaustion consequent upon the prolonged suppuration. The operation seemed to him a reasonably safe one if done with proper care. In many cases he had used almost no pressure with his hands; in other cases the force had been very considerable, and exceptionally he had made use of as much force as he could exert with both hands. There had always been some crunching of the bones. In none had paralysis subsequently developed; while some, paraplegic at the time of the forcible correction, had improved as regards the paralysis. In the earlier cases he had hung his patients up by the heels; later he had tried supporting the head and pelvis, with the face down, while the plaster was applied. More recently he had made use of the Goldthwait frame, and had since then never included the head in the plaster. The shortest case had been four weeks in bed; the longest case had been in bed for about one year. His aim had been to keep them in bed for six or eight months, allowing them to lie on the face, back, or side. In a few instances there had been no return of the deformity ; about half a dozen had gone for a year without support or return of the deformity. In the majority of cases he had succeeded in keeping the deformity reduced to about half of what it had been before the operation.

Dr. Goldthwait said that in the past two years or more it had been a common practice at the Children's Hospital in Boston to apply an apparatus in the hyperextended position, for the most part without ether. He then exhibited a number of tracings that had been taken during the period in which the hyperextension treatment had been in use. They showed, in general, that the deformity had not increased, though in some instances there had been an increase in the compensatory curve. As a result of the work of the last two years, he would hesitate to forcibly correct any spinal deformity resulting from tuberculosis unless it was associated with a paraplegia that had resisted other methods of treatment. He did not think the mortality had been materially increased by the use of forcible correction.—Dr. W. R. Townsend said that he had predicted that this treatment would ordinarily be followed by a recurrence of the deformity. There had been no deaths from forcible correction in the Hospital for Ruptured and Crippled. There the Goldthwait frame was employed without anæsthesia.—Dr. De Forest Willard, of Philadelphia, said that this treatment had always seemed to him illogical and unsurgical, and consequently he had only made use of it in one case of total paralysis, which was at the time in a desperate state. The child had been able to walk about quite well at the end of six months. In a few selected old paraplegics this operation seemed to him justifiable. —Dr. R. H. Sayre said he believed many cases of severe lateral curvature could be benefited by great force applied under anæsthesia.—Dr. T. Halsted Myers, of New York, said that his experience with forcible correction had been limited to four cases, but in all these it had been unfortunate.—Dr. Galloway said that while he had always regarded forcible correction as unscientific, he had held it in reserve for the first case of Pott's paraplegia incurable by other methods. Such a case had not yet presented itself.—Dr. McCurdy said he was accustomed to classify these cases into three groups, namely : (1) Old cases which require an anæsthetic and considerable force for correction ; (2) cases of paraplegia in which forcible correction may be beneficial ; and (3) cases under active treatment in which there is a beginning kyphosis which gradual but forcible correction seems to improve.—Dr. Weigel thought the reports just presented indicated that the mechanical support used after the forcible correction had been inefficient.—Dr. R. Tunstall Taylor, of Baltimore, had not been favourably impressed with his trial of the method, and he was of the opinion that the older mechanical methods were safer and more accurate.—Dr. Hoffmann said that great stress had been laid upon the use of forcible correction in cases of Pott's paralysis, yet he had never seen a case of this kind that had not recovered if the spine had been rigidly immobilised and the patient kept on the back. —Dr. John L. Porter, of Chicago, said that from his observation of Dr. Ridlon's cases he felt positive that fully 50 per cent. of those straightened under anæsthesia continued to show an improvement in the deformity.—Dr. Ridlon said that he would certainly try to straighten every paraplegic case. Since seeing Dr. Goldthwait's tracings he had formed a better opinion of the value of the correction method with the aid of anæsthesia.—Dr. Goldthwait remarked that he had purposely not brought tracings of the cases treated under anæsthesia because they were not better than those already exhibited. He was not in favour of using much traction or other force in securing correction.—*Report in Boston Medical and Surgical Journal, June* 21, 1900.

85.—CARBOLIC GANGRENE.

By Francis B. Harrington, M.D.,
Visiting Surgeon to the Massachusetts General Hospital.

[From Dr. Harrington's paper :]

That dilute solutions of carbolic acid applied to the extremities for a number of hours may produce gangrene and total destruction of the part is a fact of which the public at large and even many physicians are ignorant. During the last five years at the Massachusetts General Hospital, I have discovered myself, or have seen through the courtesy of the out-patient surgeons, eighteen cases of gangrene from this cause. In a large proportion of these cases amputation has been necessary. These, together with cases which I can find in the medical literature of various countries, make a total of one hundred and thirty-two cases of gangrene from dilute solutions of carbolic acid. It would be safe to assume that many hundreds of fingers have been destroyed from this cause. The facts are these: An aqueous solution of carbolic acid, if applied to an extremity, as the fingers or toes, for a number of hours in the form of a moist dressing or poultice, may produce gangrene and total destruction of the part. This result is not from compression, but simply from the action of the carbolic acid.

[The full details of a case are then given.]

It is plain that any solution of carbolic acid between 1 and 5 per cent. is dangerous. It is needless to add that gangrene does not always follow the use of carbolic solutions in this manner. The result depends on the strength of the carbolic solution, the manner of application, the length of time of application, and the power of resistance of the individual. The method of application usually employed is to wrap the finger or the toe in cloth, and to saturate this with the solution. Usually, in the cases reported, these wrappings have been kept saturated for from twelve to twenty-four hours. It is probable that the strength of the solution has less to do with the unfortunate result than the length of the application and the thickness of the individual's epidermis. Women made up four-fifths of the cases appearing at the Massachusetts General Hospital. The destructive effect of pure carbolic acid is generally recognised, and sufferers from the cause are now rarely seen, except as the result of accident. Moreover, the injury from pure carbolic acid is usually less serious than from weak solutions. The action of weak solutions is insidious. The injury is done without causing suffering. Strong carbolic acid, as Lévai has pointed out, forms a scab which resists penetration of the carbolic into the deeper tissues, so that complete gangrene and destruction of an extremity are less likely to follow from the use of liquefied carbolic acid than from weak solutions.

Experiments and observations show that the gangrene does not result primarily from tight bandages, although tight bandaging undoubtedly increases the tendency to this process. The gangrene is limited to the parts enveloped by the moist compress, for in some cases the last phalanx of the finger when not covered by the dressing has escaped, and may continue to have its natural appearance, and to bleed when pricked for some time, when the finger nearer the trunk may be quite black and without sensation. The gangrenous process may sometimes be so slight that only the skin is destroyed. Dr. C. A. Porter was able in such a case to save in part the usefulness of a finger by skin grafting before cicatrization took place. The treatment of this condition must vary according to severity of the process. In many cases it soon becomes evident that amputation will be the only helpful treatment. If the process seems superficial, and the case is seen soon after the removal of the carbolic dressing, it might be beneficial to apply a dressing saturated with a bland alkaline solution such as lime-water.

It has been asked why gangrene does not occur upon the trunk. Superficial gangrene does occur if the application is sufficiently prolonged, and the saturation of dressings is great enough. The result is not so disastrous because of the greater thickness of tissues, and because the blood-supply cannot be shut off as it is in an extremity. It is the enveloping of the entire part, as a finger or toe, with the dressing which causes the complete destruction of the part, since the gangrene only affects those parts which are thus covered. The public must be taught to use some safer treatment. Moist dressings are often very soothing and helpful in slight injuries of the fingers or toes. A large part of the benefit to be derived from any form of moist dressing can be obtained by using boiled water on clean compresses. Safe household remedies for this purpose are tincture of hamamelis or solutions of borax or of boric acid. It is evident that carbolic acid solutions in any strength applied as a moist dressing is dangerous, and ought never to be used. The fact that it is often used without bad results renders it the more dangerous. It is the duty of the medical profession to see that this needless destruction of fingers is stopped. Carbolic acid of any strength should be included in the list of those drugs which can only be procured by a physician's prescription. Whatever the strength, it should always be labelled as dangerous. —*American Journal of the Medical Sciences*, *July*, 1900.

NERVOUS SYSTEM.

86.—THE SURGICAL TREATMENT OF TRIGEMINAL NEURALGIA.

By VICTOR HORSLEY, F.R.S., F.R.C.S.,

Surgeon to University College Hospital, and National Hospital for Paralysed and Epileptic, Queen Square.

[The following is taken from Mr. Horsley's paper, based on the removal of the Gasserian ganglion in 21 cases :]

In the first place, in speaking of trigeminal neuralgia I mean to refer only to cases of what was originally called tic-douloureux, thereby excluding altogether hysterical neuralgias, neuralgias from over-work, and from all functional disorders. I also naturally exclude from consideration all cases in which we have neuralgia arising in branches of the fifth nerve as a result of fracture of the base of the skull or of new growths at the base of the skull. In fact, I refer only to one class, the class of severe neuralgia, in which the pain is paroxysmal in character, is always strictly limited to one side of the face, very often at first to one branch or division of the fifth nerve, and only later gradually invading the other branches ; a neuralgia which is accompanied by other evidence of nerve stimulation in the shape of secretion of tears or of saliva, and vaso-motor dilatation of the vessels of the conjunctiva, and also very often of the vessels of the face, according to the branch of the nerve which happens to be implicated ; a neuralgia, finally, which only in its latest stage is accompanied by any anæsthesia or numbness of the parts supplied by the inflamed nerve. Now, these cases, as you know, are relatively rare ; but when they occur they are worthy of every attention, because the patients' sufferings are horrible. Eventually, of course, as a final measure, recourse is had to surgery.

For many years the disease, having been noted to attack one branch of the fifth nerve at a time, has been considered to be of a peripheral nature, and if I may say a word on its pathology at this moment I would unhesitatingly say that all clinical evidence seems to point to the fact that it does begin in the peripheral branches of the fifth nerve, and that then gradually, like all neurites, it creeps, as an inflammatory process, up the peripheral branches of the nerve until it arrives at the Gasserian ganglion.

In speaking of trigeminal neuralgia, we have to make up our minds as to which part of this anatomical tract is the seat of the disease. I said earlier that the whole clinical history of these cases seems to point to the fact that the disease begins in the small peripheral branches in the face. The majority of these patients tell you that the pain first arose from exposure to cold ; that is to say, to an irritation applied to the outside of the face, and so forth. I need not go into the clinical facts, which are as well known to you as to myself ; I only say now that the disease is an ascending neuritis from peripheral terminations of branches of the fifth nerve. We see that the disease tends to spread from one division of the ganglion to another. It would be reasonable, therefore, to assume that the ganglion must be looked upon chiefly as the central seat, at any rate ultimately, of the mischief, and that therefore, *a priori*, it would not be of much use to simply remove the branches of the fifth nerve peripherally to the ganglion. Experience has now shown that to be the case. I have myself published from time to time cases in which I have removed various peripheral branches of the fifth nerve, and in which I have observed in some early instances that there has been no recurrence of pain. In a large number of cases, however, the pain has recurred after a remarkably constant interval of time—namely, from two to three years. Of this fact, the only possible explanation seems to me to be that, in the instances where the whole branch was removed, the disease must have gone on slowly creeping up towards the ganglion, and that where one could only cut out a portion of the branch in its continuity, two years' interval was sufficient for reunion of that nerve, and, in fact, I have on two occasions proved the correctness of this belief. We have now brought before us the question whether, surgically, we should any longer remove only the peripheral branches of the nerve, or whether we ought not to proceed to remove the Gasserian ganglion itself, and in this connection I now wish to lay before you certain facts as regards that removal. Some fourteen years ago Professor Macewen and myself, both independently, thought not of removing the ganglion, because we knew of its intimate relation to the wall of the cavernous sinus, but of dividing the sensory root of a nerve behind the ganglion, thus making sure we cut off all possible paths between the ganglion cells and the central apparatus of the nerve. We both did much the same thing. We opened the skull, raised the temporo-sphenoidal lobe, and divided the sensory root. Unfortunately in each case the patient died, and he obviously died of shock due to the operation; and we both, quite independently, came to the conclusion that it was a dangerous operation, and that one did not feel justified in repeating it. Then Professor Rose, of King's College, proposed to remove the ganglion by reaching it through the foramen ovale, but that did not receive much favour, and I think Professor Rose himself did not practise it very long. It was attended by many disadvantages. In Germany and in America, quite independently to each other, Krause and Hartley proposed the operation which I venture to lay before you as being the best that could be performed at the present time, and which should be known as the Krause-Hartley method of removing the Gasserian ganglion. The method is exactly the same as that which Macewen adopted, but with this most important exception—namely, that the dura mater is *not* opened. Opening the dura mater has the same effect in producing shock that opening the abdomen has, because of the exposure of the central nervous apparatus, its cooling, and the consequent depression of vitality. Although this Krause-Hartley operation frequently takes one and a half hours to perform, and is a most difficult and tedious operation, involving depression of the temporo-sphenoidal lobe to a very severe degree, it nevertheless is, in my experience, unattended by shock of any really dangerous character.

Experience of these cases shows me, first, that there is very little risk to life from the operation itself. Out of these 21 operations I have only had two deaths. The first fatal case was in a man aged 62, who died two months after the operation from obvious staphylococcic infection, and I still do not know whether he was infected by an extensive syphilitic ulceration which he had in the nose, or whether it was through my wound. In the other fatal case the patient was an old lady of 80 years of age. She exhibited no appreciable symptoms of shock, but a few hours after she was returned to bed the nurse was giving an enema by my direction—an enema of beef tea such as I always direct these patients to have—when the patient suddenly rolled over on her side and then presented all the obvious signs of apoplexy. She died in two days time, and a small hemorrhage was found in the pons. It was a remarkable fact, considering the nature of the operation, that out of 21 cases there were only two deaths, considering also that one does detach such an important structure as the sensory root of the fifth nerve. I have operated on four patients over 80 years of age, so that age itself is not necessarily a bar to the operation.

[The author then speaks of the importance of strict asepsis. In regard to the risk to the eye he proceeds as follows:]—Of the cases which I lay before you, although I have seen conjunctivitis in four, only one patient, and that a very early case operated upon prior to the institution of my present method, has lost the eye; that is one case out of 21. Since the employment of the following treatment I have not seen trouble with the eye. As is usual during all operations in this region, the eyelids are stitched together temporarily with horsehair, and the stitches are taken out at the conclusion, thus preventing chloroform vapour getting into the eye, or any sublimate lotion being dropped in by accident. But a *sine quâ non* is to fasten a sheet of jaconet or gutta-percha in a line above the outer canthus of the eye, and to let it cover the dressings, so that no antiseptic can get forward to irritate the conjunctiva. I can only say, in conclusion, that in not one of these cases have I seen a recurrence, and I have now an experience of the operation extending over five years; and Krause, whose first case dates from 1892, has also never seen a recurrence after removal of the ganglion. Therefore I have no hesitation in summing up what I have to say as regards the surgical treatment of trigeminal neuralgia, that this operation of removal of the Gasserian ganglion should be performed in preference to any other treatment.—*The Practitioner*, *September*, 1900.

ALIMENTARY CANAL.

87.—THE AFTER-TREATMENT OF ABDOMINAL SECTIONS.

By T. P. Legg, F.R.C.S.,
Surgical Registrar and Tutor, King's College Hospital.

[From Mr. Legg's paper :]

In an uncomplicated case any or all of the following conditions may require treatment :—

(1) *Immediate treatment at the end of the operation.*—If there is restlessness such that harm may result from it, morphia must be given hypodermically, and usually a small dose—1/10 gr.—is sufficient. A much more important case is one in which there is considerable collapse at the end of the operation. In these patients an enema given before the patient leaves the operating table is very useful ; such an enema consists of half a pint each of hot water and beef tea, with one or two ounces of brandy, given at a temperature of 105 deg., and through a tube and funnel ; hot coffee is by some surgeons used in a similar way. In addition to the enema, strychnine hypodermically is valuable, specially when the collapse is due more to shock from the severity of the operation rather than loss of blood. The enema is usually rapidly absorbed, and may be repeated in an hour or two, according to the condition of the patient. If the patient is not sick and can swallow, small doses of brandy and hot water by mouth are valuable. In the worst cases, when there has been hemorrhage, infusion of saline solution into a conveniently placed vein, usually the median basilic, is the best treatment ; two or three pints, with or without brandy, may be injected. An important point is to have the fluid hot (110 deg. or 115 deg.) in the funnel, as the temperature rapidly falls in its passage through the tube. If the patient is going to do well the pulse will improve and continue to improve, becoming slower and increasing in volume and force ; the colour of the lips will deepen, and the extremities will be warm.

(2) *Pain.*—The best remedy is morphia hypodermically in a small dose, 1/10 gr. to 1/6 gr., repeated if necessary. This leads to the question of giving morphia after an abdominal operation. Some surgeons give it as a routine, others are strongly opposed to its use at all, maintaining that it produces

sickness and intestinal distension. The best rule to follow is to give the drug when pain is so great that the patient is very restless, unable to sleep, and it appears more likely that harm will result by not giving it, especially if the pulse is being affected. Under such circumstances morphia is very beneficial. It should always be given in a small dose, and should be given with strychnine if the pulse is weak. A large majority of cases can be perfectly well treated without it.

(3) *Thirst* is best relieved by giving hot water in small quantities by the mouth, or by injection of hot water into the rectum. The latter method is the most valuable means of treating thirst. The fluid is rapidly absorbed and acts as a stimulant.

(4) *Sickness.*—The vomiting which occurs may be of two kinds :—(*a*) That which comes on immediately, and is partly due to the anæsthetic, partly to the operation itself ; (*b*) that which comes on later, three or four days after the operation : this latter is the more serious, and causes more anxiety, as it may mean the presence of peritonitis ; the former is less important, unless it is very persistent and severe. Provided the pulse is not increasing in frequency or diminishing in volume, and the patient's general condition is satisfactory, this early vomiting is not of much importance ; it ceases spontaneously, or yields to treatment. The first thing to do is to give nothing by mouth for the first twelve hours ; this alone is frequently sufficient. In other cases really hot water in doses of ʒj or ʒij will be successful, and if constantly small amounts of mucus are being brought up, washing out the stomach with hot water is most efficacious. The easiest way to do this is to give O½—Oj of hot water at one draught, with or without the addition of gr. xx sodii bicarb., which serves to dissolve the mucus. Shortly after taking it the whole is vomited, and the patient is much relieved, getting several hours' freedom from vomiting. If the first washing out is not sufficient it is repeated. Ice is not advisable as a remedy, but succeeds sometimes when other remedies have failed. Champagne in doses of ʒj to ʒiv is useful, specially if the pulse is feeble. Of drugs, bismuth subcarbonate in large doses (gr. xx—xxx) is the most reliable. It is best given in wafer papers ; patients will often retain it when so given who have vomited when it has been given by the usual method. If the sickness is due to the food being given too early or in too large quantities, a change in the quantity and quality will usually effect the cure, or total cessation of all food by mouth for a time may be necessary. Sickness coming on later—after the third or fourth day—is always a cause of anxiety, and may be due to : (*a*) Mechanical obstruction ; (*b*) peritonitis ; (*c*) distension with flatulence.

(5) *The use of the catheter.*—Many patients cannot pass their urine voluntarily after the operation. Too early use of the catheter should be avoided. Change in position will sometimes enable the urine to be passed naturally.

(6) *Feeding the patient* is one of the most important factors in the after-treatment of an abdominal operation. In the first place it is advisable to give nothing by the mouth for the first twelve hours; thirst can be relieved by other means. If the patient is feeble, nutrient enemata should be given from the outset. As soon as possible feeding by mouth should be commenced.

(7) *Abdominal distension.*—After an abdominal operation considerable distension may come on, not due to obstruction. If there is obstruction the pulse rate rapidly rises; in simple flatulent distension the rate does not increase, and the volume and regularity is maintained. In the latter a rectal tube passed as far as possible, and retained some time, may do all that is required. A better method of treatment is to give a turpentine enema—℥j or ℥ij beaten up with the yolk of an egg to the pint of soap and water; a quantity of flatus is passed with obvious relief. If this fails a saline purgative followed by an enema is given. In slight cases change of position is useful, and in the more severe cases hypodermic injections of strychnine (♏ v or more) are valuable in addition to the other remedies. To prevent the recurrence of the distension the bowels should be kept regularly opened by means of salines and small doses of belladonna.—*St. Bartholomew's Hospital Journal, September*, 1900.

88.—THE PREPARATION AND AFTER-CARE IN GASTRIC OPERATIONS.

By William J. Mayo, M.D., Rochester, Minnesota,
Surgeon to St. Mary's Hospital.

[The following is taken from Dr. Mayo's paper on "Malignant Disease of the Stomach and Pylorus":]

The special preparation of the stomach for operation is of importance. Under normal conditions bacteria do not flourish in the stomach, although present under ordinary food conditions. With carcinoma, motor insufficiency, retention, and in the later stages ulceration, present conditions favouring development of germs as well as the saprophytes of putrefaction.

In Halsted's clinic, Cushing has been able to secure a high degree of sterilisation of the stomach by means of careful antiseptic cleansing of the teeth and mouth and heat sterilisation of the food. Lavage as a means of aiding the cleansing process is very necessary. The mechanical removal of the gastric contents washes out the unabsorbed food products and prevents decomposition. Guillot does not favour lavage immediately prior to operation upon the stomach, believing that it tends to weaken the patient at a critical time. Purgation before the operation he also opposes on the same grounds. Among surgeons generally the opposite view is held, lavage and purgation being considered essential as preliminary preparation.

The writer does not ordinarily favour marked changes in the diet of surgical cases shortly before operation. The patient of average intelligence can materially aid the surgeon in selecting articles of diet which experience has taught him cause the least harm. If these articles can be sterilised by cooking and the remains be removed by stomach lavage before decomposition occurs, we will have accomplished something in the way of securing a proper wound site. Undoubtedly a greater amount of good would be accomplished by a diet beginning some days before operation, but the necessary experimentation to secure proper feeding takes valuable time, and the immediate result is often to temporarily disarrange the already enfeebled digestive power. Attempts to add to the patient's strength before operation by rectal feeding to supplement stomach absorption may be objectionable. In many cases the rectum becomes intolerant after a few days, and its value may in this way be seriously impaired for carrying on nutrition after operation. My own experience has been that the patient does fully as well if either method alone is employed. Not more than a few days should be spent in preliminary preparation. The stomach should be carefully emptied of its contents just previous to the operation; this is seldom as successful as one could wish. Often the wash-water will return quite clear, and on opening the stomach a few moments later a quantity of dirty fluid will be encountered. This renders accidental wound soiling possible, and in elevating the stomach out of the abdominal incision gravity may cause the fluids to pass into the œsophagus.

Aspiration pneumonia under such circumstances is very liable to occur after operation. I had two deaths from this cause. Fifteen out of a total of twenty deaths after stomach operation in the Heidelberg clinic were from pneumonia. Czerny does not think it is due to the anæsthetic, as it occurred twice in five cocaine operations; and, as it often came on in the first 48 hours, it could not be due to confinement to bed. In his experience it was most common in males with a previous bronchitis or emphysema, and due, he believes, to the incision interfering with abdominal respiration. In debilitated cases very little anæsthetic is needed—a preliminary hypodermic of morphine with just enough ether or chloroform to enable painless division of the abdominal coverings and again to close. No pain is felt during the gastro-intestinal manipulations. Local anæsthesia by cocaine in very debilitated subjects is an ideal method, provided the operation is short and does not require traction on the margin of the abdominal incision. Abbe and others have used it to a considerable extent in stomach surgery. The experience of Bloodgood and Cushing in hernia work and Matas in cocainisation of nerve trunks suggests a wider field for its employment. The after-care is mainly to counteract shock, which the nearness to the great sympathetic ganglia and direct injury to the terminal filaments of the vagi often renders severe. Morphia, strychnine, and atropia are useful to meet indications, and, if necessary, saline infusions. Rectal enemata of hot saline solutions or coffee are valuable adjuvants to prevent collapse. After the immediate danger has been overcome every effort to prevent exhaustion and death at a later stage must be made. The majority of surgeons prefer rectal feeding for the first few days. Successful rectal feeding requires experience and good judgment; the tendency is to over-feed and to use larger quantities than are well borne. The need of liquids is most apparent, and large enemata of saline solution at least once in 24 hours meet this indication. In my earlier cases I am convinced that I withheld stomach feeding longer than was necessary. The general tendency is to earlier feeding by the mouth, and less reliance is placed on rectal alimentation. Rectal feeding carries the patient along, but is inadequate, and the patient does not gain.

Guillot begins liquid nourishment by the mouth two hours after partial stomach extirpation, and Roux gives whatever the patient desires and as soon as called for. This practice shows great confidence in the methods of suture in preventing leakage; but after an abdominal operation of this magnitude digestion for the first 24 hours is nearly at a standstill, and food under such circumstances is liable to do harm. Chlumsky, in his experiments as to the strength of union after intestinal anastomosis, demonstrated that from the third to the fifth day the union was weakest. There was little difference between the button and the suture in this respect. These conclusions are borne out by clinical experience, and care should be exercised in feeding until union is complete. Elderly people bear confinement to bed badly, and do much better if allowed up within the first week.—*Annals of Surgery*, *August*, 1900.

89.—TREATMENT OF PERFORATING ULCER OF THE STOMACH.

By JOHN T. FINNEY, M.D., of Baltimore,
Associate Professor of Surgery in the Johns Hopkins University.

[From Dr. John T. Finney's paper :]

The treatment of perforating ulcer is entirely surgical. Among the first questions that press for answer are : (1) Shall we give opium or not ? If sure of our diagnosis, we may allow a limited amount of opium, in order to alleviate the suffering of the patient while preparing for the operation. The general rule holds good in all such cases, however, that the less opium administered the better the prognosis. I can recall many instances, in my own experience, where the prognosis has been markedly influenced for the worse by the free administration of opium by the attending physician. (2) Shall we wait until the shock is recovered from ? The answer to this question must be in the negative. If the collapse of the patient is so extreme that she is practically moribund, of course no operative procedure would be justifiable ; but under ordinary circumstances the sooner the operation is undertaken the sooner the cause for the shock will be removed, and the stimulation of the anæsthetic has often a beneficial effect. (3) What are the indications for operation ? The classical picture, which can be recognised by any one, of course constitutes a definite indication, but in the other less classical, and perhaps more frequently observed, cases, where the symptoms present are urgent and progressively becoming more pronounced, and where there is reason to believe that there is some severe abdominal lesion, it is not certain what, an exploratory incision should be made early, in order to establish a diagnosis. In other words, one should not, in urgent cases, wait for a diagnosis, and thus lose the golden opportunity to relieve the patient, but should operate in order to make a diagnosis. And here we cannot emphasise too strongly the value of cocaine anæsthesia for this purpose. It is strange that this method, which has been used for years in some of the German clinics, notably Mikulicz and Kocher, has gained so little headway in this country. I first suggested its advisability several years ago in exploratory incisions in doubtful cases of typhoid perforation, and have had opportunity to test its value in this as in other conditions. It can be carried out in practically every case, and in very weak patients, with little or no disturbance of the patient, either local or general, and has the additional value of not being followed by post-anæsthetic sequelæ, as occasionally happens after ether or chloroform.

An incision should be made in the middle line, between the ensiform cartilage and umbilicus, under cocaine or Schleich solution anæsthesia, sufficiently large at first to allow inspection of the interior of the peritoneal cavity and its contents. Through this opening cover-slips and cultures can be taken from the peritoneal fluids for immediate and future examination. If no indication for further operative procedure is found, the exploratory wound can be immediately closed, and no harm has been done, and the condition of the patient little, if any, disturbed. If, however, it is found that a peritonitis is present, or an extravasation of gastric contents has taken place, the incision can be immediately enlarged. If the patient complains much, the cocaine may be supplemented by a few whiffs of ether or chloroform. In some instances the operation can be completed under cocaine anæsthesia alone.

As soon as the abdomen is opened, a rapid, systematic, and thorough examination of the stomach should be made. Beginning with the cardiac end, which is more frequently found to be the seat of perforation than the pylorus, one should go carefully over the anterior wall of the stomach to the pylorus, then the lesser curvature, which is more frequently involved than the greater curvature, and, lastly, lift up the stomach and examine the posterior wall. By following this method in the search, examining in order the most likely seats of perforation, one may save much valuable time. Nor should one stop when one has found a single perforation, as in 20 per cent. of cases two or more perforations are found to exist. One can frequently examine fairly well the lesser peritoneal cavity without opening into it, but one should not hesitate to do this in case of doubt. The stomach wall may vary greatly in thickness and consistency. At times, from pyloric obstruction, it may be so hypertrophied and indurated as to be mistaken for carcinoma, as occurred in one of my own cases. If the perforation is very difficult of access, or cannot be found at all, or is surrounded by firm protecting adhesions, it is best to cleanse the peritoneal cavity as thoroughly as possible and drain, either by tube in the ulcer itself, packed about by gauze, or by gauze alone. It is a good rule not to recklessly disturb adhesions which have walled off the general peritoneal cavity, but rather to preserve them. If the perforation is accessible and the stomach walls will permit of suture, the hole should be closed by, preferably, a double row of sutures. The mattress suture of Halsted has, we think, distinct advantages over others. It is unnecessary to excise the ulcer, but where hemorrhage has been frequent and the patient's condition admits of it, it might be advisable. Where, however, owing to infiltration and stiffness, or great friability of the stomach wall, it is found impossible to suture, one can drain with gauze or tube, as in the case of inaccessible ulcers ; or one can plug the opening with a roll of omentum or suture a coil of intestine over the opening, successful instances of which have been reported. It has been recommended, in the case of inaccessible ulcers on the posterior wall, to incise the anterior wall sufficiently to allow access to the perforation. The conditions justifying the use of such procedure, however, will seldom arise. Care should be exercised in suturing ulcers in the neighbourhood of either orifice, that no stricture or kink results. This is best avoided by making the line of suture at right angles to the long axis of the stomach.—*Annals of Surgery, July*, 1900.

90.—SURGICAL TREATMENT OF HÆMATEMESIS.

By W. L. Rodman, M.D., of Philadelphia.

[From report of Dr. Rodman's address:]

Formerly the treatment of hemorrhage from gastric ulcer was uniformly by ice, astringents, and opium, combined, of course, with rest. This should properly be the treatment still for the first hemorrhage in all cases ; for the second possibly ; but not for subsequent ones—for recurring hemorrhage, like appendicitis, would sooner or later prove fatal, and should, like that affection, be treated radically ; and to carry the parallelism further, the best time to operate was between attacks. With two hemorrhages coming close together, we might assume that, as in appendicitis, there would be a third attack, and if anything was to be attempted surgically, it should be done when the patient was in fairly good condition, and not in the collapse of hemorrhage. The speaker said that better results would be secured by judicious interference than by the policy of inaction hitherto invariably followed, though he would not be understood as advocating interference in every case. Up to a certain point there was substantial agreement between physicians and surgeons, and indeed, the idea of arresting hemorrhage from gastric ulcer by surgical means occurred to a physician and a surgeon at the same time. The results of operations for chronic hemorrhage were most encouraging. There had been thirty-one operations for frequently recurring, or what might be called chronic hemorrhage, with six deaths, or a mortality of 19·3 per cent. Mr. Robson had reported one hundred and eighty-eight operations for gastric ulcer (non-hemorrhagic and non-perforating) with a mortality of 16·4 per cent., which was about the same percentage as found by Heydenreich, Tricomi, and others. The good showing now made for recurring hemorrhage would be still better when physicians generally recognised that if delayed operations were justifiable, early ones were better, and should, therefore, be encouraged at a time when the chances of success were correspondingly brighter. While hemorrhage *per se* as a symptom of gastric carcinoma had not yet, Dr. Rodman said, led to an operation, he thought that in certain cases it might be either so free or of such frequent recurrence as to make one desirable. Resection would be the best procedure, but gastro-enterostomy would not only arrest the bleeding, but usually delay the inevitable end, and bring about a decided amelioration of all the distressing symptoms. Indicated as it often was, in advanced carcinoma without hemorrhage, the presence of the latter as a symptom should be an additional reason for surgical intervention. Hemorrhage into the stomach was a frequent symptom in cirrhosis of the liver. The diagnosis of cirrhosis could be made in only one-third of the cases at the time of the first hemorrhage. A study of Preble's cases along with those collected by Savariaud, showed the possibility of an unexpected and fatal gastric hemorrhage in the course of cirrhosis of the liver. Several of the cases reported as having been operated upon for diffused or capillary hemorrhage complicating ulcer were really, the speaker held, instances of venous hemorrhage into the stomach on account of an obstructed portal circulation due to cirrhosis. It was quite certain that operation for gastric hemorrhage in cirrhosis had a less promising future than the same procedure in bleeding ulcer ; for in the former there was, in addition, that general hemorrhagic tendency that made bleeding from any situation most difficult to arrest. No operation had as yet been deliberately performed in cases in which the diagnosis of cirrhosis had been made, although some of the cases reported and operated as hemorrhagic ulcers might have been instances of cirrhosis.—*Medical Record, June* 9, 1900.

91.—UNUSUAL COMPLICATION FOLLOWING GASTRO-JEJUNOSTOMY.

By W. H. Brown, F.R.C.S. Irel.,
Surgeon to the Leeds General Infirmary.

I relate the following case to offer another instance of a good result following operative interference when there seemed to be but a forlorn hope of giving relief. The patient, a woman, aged 62 years, had suffered for many months from pain after food, the pain gradually becoming most acute so that opium in full doses was needed to obtain anything like comfort. Latterly regular attacks of vomiting occurred about every 48 hours, when most of the nourishment taken during the preceding two days returned. No tumour could be felt, but the symptoms all pointed towards pyloric stenosis. As the condition of the patient was getting unendurable I decided, after consultation with Dr. T. Churton, to open the abdomen to see if anything could be done. At the operation I found the pylorus greatly thickened and masses of enlarged glands constituting too great an area of disease to be attacked with any degree of safety. I therefore joined up a loop of jejunum to the stomach, using Senn's plates as the scaffold of anastomosis. For the next two weeks all went as well as such cases usually do; the vomiting ceased and the pain gradually subsided. At the end of that time, however, the symptoms of obstruction began to reassert themselves, the pain again grew severe, and again the regular vomiting began, the amount corresponding with the quantity of fluids taken. It seemed clear that the new opening had for some reason or other ceased to be effectual. I therefore was face to face with a most discouraging chain of events, and the patient herself was as badly off as she was before she submitted herself to operative interference. I decided to act on the assumption that the new opening between the stomach and the jejunum had closed, and determined to re-open for the purpose of ascertaining the reason. Accordingly I re-opened the abdomen, and I found that the junction between the bowel and the stomach externally was quite satisfactory. I then made an incision into the stomach two inches above the junction, and putting my finger inside found that all trace of the bone-plate had disappeared, and also that all trace of the opening was absent. After a minute or two I felt the edge of the oval cut of the former operation, and pressing firmly in the centre of this tore through a membrane by which the opening had been occluded. My finger then passed easily into the bowel, and I stretched the opening freely in all directions. I then closed the exploratory incision into the stomach, and finished the operation in the usual manner. After a day or two, during which time vomiting was incessant, improvement set in. The pain again left, and it has not since returned. The patient is able to take light food, and the vomiting has ceased. She is now out of bed daily, and is gaining strength. [Six weeks later the patient was reported as well, taking ordinary food, and doing her ordinary work.]

I have had occasion to operate for the relief of pyloric stenosis a good many times, and in each instance I have used

Senn's plates, but never before has the disaster I have related taken place. The membrane through which I tore was about as thick as ordinary note-paper. I do not know what occasioned the formation.

I said at the commencement of the notes of this case that I related it to add to the number of recorded surgical successes under desperate circumstances. With the condition which I have related to hold one's hand was to let the patient die in great distress; to operate again gave her one chance, but it also exposed her to the risk of death upon the operating table. Problems such as these come before us only too frequently, and end only too often disastrously. I think it right, therefore, to put upon record this case, as it may possibly afford a guide as to the line of action to be decided upon should failure to relieve attend upon operation for a like condition.—*The Lancet, July* 7, 1900.

92.—APPENDICITIS.

By HARRY LITTLEWOOD, F.R.C.S.Eng.,
Surgeon to the Leeds General Infirmary, &c.

[From Mr. Littlewood's paper :]

Simple appendicitis (*non-suppurative*).—The first class, simple appendicitis—the catarrhal appendicitis of the Americans—may be (1) acute or (2) chronic (recurrent or relapsing appendicitis). Here probably the inflammation is confined to the appendix. The inflammatory processes, starting in the mucous or sub-mucous tissues, rapidly spread, so that in about 48 hours there would be some roughening of its peritoneal covering. The appendix becomes increased in size, and it appears turgid and distended. Operations have been performed within two or three days of the onset, and this condition has been observed. If the attack subsides the inflammatory materials become absorbed, and if the parts are examined a short time after the attack it is quite possible that no evidence of such an attack could be found. In the same way, if the tonsils are examined after an attack of acute tonsillitis nothing may be seen to suggest that the tonsils have been inflamed. If these attacks are often repeated or the disease assumes a chronic form, then definite permanent changes will be found—thickening of the appendicular walls, adhesions to surrounding parts, and partial or complete obliteration of the appendix. It is this condition which is responsible for some of the attacks of relapsing appendicitis. In this class the patients suffer from acute and sub-acute attacks, at intervals varying from a few weeks or months, and in the meantime rarely feel quite well. There is always a little tenderness or something to remind them that they must be careful, a consciousness of something in the right iliac fossa. Some of these patients become chronic invalids. It is important to operate on these patients between the attacks if possible. This condition is often associated with twisting and adhesion of the appendix, the results of several attacks of either acute or chronic simple appendicitis ; in some of these cases there has been suppurative appendicitis, the abscess probably becoming encysted and the contents dried up. A fresh irritation arises, to be again lighted up into an acute inflammatory attack.

Suppurative appendicitis.—I will now consider the suppurative cases. In this condition the contents of the appendicular canal are either purulent or muco-purulent, the walls are infiltrated with a purulent exudation, and at one or more places the appendix may have perforated. In most of these cases the pus is shut off from the general peritoneal cavity by adhesions, and the quantity of pus may vary from a few drops to several ounces. If the inflamed appendix is lying on the external iliac vein or artery in rare cases these have become perforated. If it is in contact with the anterior abdominal wall an abscess may form here, and if it is not operated upon it may burst and discharge itself. In some cases the inflamed appendix may become adherent to the peritoneum ; covering the iliac fascia, it may ulcerate through the fascia, and an abscess may form beneath it, the inflammation extending into the cellular planes, and producing a large tumour by the wide-spread cellulitis, reminding one of large inflammatory swellings about the lower jaw secondary to a decayed tooth. The whole of this condition may subside, leaving a small encysted abscess. More than a year ago (on March 6, 1899), I operated on such a case.

Gangrenous appendicitis.—The greater part of the appendix may become gangrenous or a localised patch may form in its walls. It is in these cases that one, as a rule, finds a hard concretion near the cæcal orifice of the appendix. Here venous stasis is produced with a rapid œdema, and very quickly the micro-organisms finish the work of destruction so commenced. In some cases a rapid line of demarcation is formed, and the gangrenous portion of the appendix may be found free—necrotic amputation. It is these cases which are so rapidly and tragically fatal, the patient dying in a short time from general peritonitis. In other cases the purulent collection is limited by adhesions, so that the whole peritoneum is not involved, and in this cavity the gangrenous appendix may be found, but often it is very difficult to recognise it. The perforation is generally a little distance below the concretion, although sometimes it may be exactly at the level of the concretion. In these cases operation is the only chance. I have been fortunate enough to have two successful cases of this kind, in both of which there was very extensive peritonitis—I will not say general—associated with a gangrenous appendix.

Treatment.—I shall not discuss the general treatment of this condition, but I would urge, if there is no improvement in the patient's condition after 48 hours from the onset of the attack, that those who will be responsible for the operation should have a chance of seeing the case and of deciding at this stage whether or not an operation should be performed. I have never yet regretted operating, but I have often regretted that operation has not been decided upon earlier. There are no golden rules as to when to operate or when not to operate. Each case must be carefully studied. It is an advantage to operate when there is no pus, for then the appendix can be removed by a muscle-splitting operation which is much less likely to produce a hernia. When pus is present and is localised one must work very carefully so as not to infect the peritoneum. This can be done by carefully using strips of gauze and wiping out as one goes along; in the majority of these cases it is necessary to drain. The pus is generally found about the appendix, extending to the pelvic brim and perhaps into the pelvis, behind and to the outer side of the cæcum, and the parts in front of the cæcum. Here it is shut off from the general peritoneal cavity often by recent adhesions to the omentum which may be infiltrated with pus. I think that the more experience one has the more one is inclined to search for and remove the appendix; but there are certain cases in which the condition of the patient will not admit of this, where we must simply be content to open the abscess and drain, leaving the appendix. Fortunately a fair percentage of these cases may recover, and some of them may never have a relapse. The abdominal wall in the region of an inflamed appendix is generally very vascular. Often the muscles and inter-muscular planes are œdematous, and sometimes purulent. In the gangrenous cases with extensive peritonitis something heroic must be done for so desperate a condition; more extensive exposure of the peritoneum for cleansing and drainage, getting the bowel to act by saline purgatives, &c. Formerly all cases of appendicitis were considered to belong to the province of the physician, but now surgery has put forward such strong claims that in a certain number of cases an operation must be performed, and in others the advisability of an operation must be discussed.—*The Lancet*, *October* 27, 1900.

93.—SARCOMA OF THE SMALL INTESTINE.

By E. Libman, M.D.,

Assistant Pathologist, Mount Sinai Hospital, New York.

[From Dr. Libman's interesting and very exhaustive paper :]

The following are the diseases to be differentiated from sarcoma :—

(1) *Carcinoma of the intestine and peritoneum.*—Baltzer states that sarcoma occurs earlier in life, that carcinoma is apt to produce a stenosis earlier, is more tender, and lasts longer. Schmidt believes that œdema of the legs, with little or no ascites, would favour sarcoma. This latter statement is certainly true. Baltzer's remarks are, however, not absolutely correct. Although sarcoma is usually rapid in its course, it may be slow, and there are numerous instances in which carcinoma runs a rapid course. Again, we have shown that sarcoma does occur after the fortieth year, although not commonly. According to our personal experience, carcinoma of the intestine occurs quite frequently in people between the ages of 15 and 25. It is true that it then generally involves the cæcum, descending colon, or rectum, but if metastases are already present (and it is mainly under such conditions that the differential diagnosis must be considered) the cases might well be confused with sarcoma of the intestine. We will therefore modify Baltzer's statement, and say that under 15 years of age the diagnosis would be decidedly in favour of sarcoma (although it is true that even congenital intestinal carcinoma has been described as well as congenital sarcoma), and that after the age of 40 sarcoma is less probable, but cannot be excluded. Important points against the diagnosis of carcinoma are the absence of external glandular involvement, the absence of tenderness, and the large size of the growths in the sarcoma cases.

(2) *Tubercular peritonitis, and tuberculosis of the mesenteric lymph nodes.*—The differential diagnosis may be very difficult, and even if a positive diagnosis of sarcoma is made, the presence of a concomitant tuberculosis cannot be excluded. This was made especially clear in a case described by Nothnagel, in which his diagnosis wavered between these two conditions, and in which the autopsy revealed lymphosarcomatous growths, springing from the edges of cicatrising tubercular ulcers. The presence of a very large tumour or tumours speaks more for sarcoma. The facies is different in the two conditions, but the recognition of this point requires much experience. Ascites is

more apt to occur early in tuberculosis. A tubercular history is of no use in excluding sarcoma, nor is the existence of fever. If the ascitic fluid should reveal tubercle bacilli, of course the diagnosis of at least a tubercular condition being present would be absolute.

(3) *Intestinal obstruction, intussusception or intestinal perforation when due to sarcoma*, is accompanied by the same symptoms as under other conditions, and the diagnosis can be made only if the growths can be felt, and if other symptoms are present.

(4) *Sarcoma of the kidney* is not generally so mobile. Hæmaturia would speak decidedly for a renal growth, but this does not occur in the majority of cases. In renal sarcomata the tumour is generally located more on one side of the abdomen, but this may also occur in intestinal sarcoma. If nodules are felt elsewhere in the abdomen they speak for intestinal or mesenteric sarcoma, as the renal cases do not show metastases in the peritoneum. Further, the kidney sarcomata are less rapid in their course.

(5) *Ovarian tumours and cysts.*—A pedunculated intestinal growth may closely simulate an ovarian cyst, and, on the other hand, an ovarian tumour may be located in the upper part of the abdomen, and simulâte a mesenteric or intestinal tumour. The finding of a pedicle (Hegar's method) springing from the uterus would make the diagnosis clear. In a case recently seen no pedicle was felt (Hegar's method not being tried), and as the tumour was surrounded by a group of distinct nodules, the diagnosis of intestinal or mesenteric sarcoma seemed assured. The operation, however, revealed an endothelioma of the ovary, and what had appeared to be separate nodules were found to be large irregularities springing from the tumour.

(6) *Neoplasms of the bladder and prostate gland.*—Given a large tumour in the region of the bladder or prostate, especially in a person under forty, it is necessary to determine whether or not the same is due to a secondary growth from an intestinal sarcoma, or is a primary intestinal growth which has become adherent in the pelvis. In two of our cases some of the symptoms might easily have been construed as indicating a primary growth of the bladder.

(7) *Retroperitoneal sarcoma.*—The differential diagnosis may again be very difficult here, although unimportant, for an intestinal tumour extensive enough to resemble one of these retroperitoneal sarcomata is generally a non-operable case. Steele (*Amer. Journ. Med. Sci.*, 1900, page 322) says that in retroperitoneal sarcomata the colon lies in front of the tumour, that obstruction of the intestine is apt to ensue, and that pains in the legs and in the lumbar regions is characteristic.

(8) *Appendicitis with or without peritonitis.*—Two of our cases show how closely this may be simulated by an intestinal sarcoma (and it is not difficult to appreciate how much greater this similarity might be in cases where the sarcoma is primary in the cæcum). The diagnosis will have to be made on the lines laid down until more cases are reported. I would lay great stress, however, on the attempt to find nodules by rectal examination. A single mass felt by the rectum is not of much use for differentiating the conditions, as such a finding is frequently enough made in appendicitis cases, and it not uncommonly occurs that a separate, very hard mass, closely resembling a tumour, may be felt by the rectum in cases of appendicitis.

(9) *Differential diagnosis between lymphosarcoma and other varieties of sarcoma.*—This cannot at present be made with any degree of certainty ; all we can now say is that with spindle-celled sarcomata there is apt to be one large mass, whereas the lymphosarcoma cases usually present multiple growths.

EXPLORATORY LAPAROTOMY.—We believe that this is indicated in all cases except in those in which there can be felt several distinct masses at some distance from each other. A large mass with nodules near by may represent a solitary tumour only, as was demonstrated in the case of ovarian endothelioma cited above.

TREATMENT.—(*a*) *Operative.* When the growth can be removed completely this should certainly be done ; but we believe that cases of lymphosarcoma with extensive metastases should not even be subjected to exploratory incisions, as this is likely to hasten the occurrence of the fatal issue. (*b*) *Medicinal.* In the literature there are a number of undoubted instances in which sarcomata, particularly lymphosarcomata, have been cured or improved by arsenic given internally, used hypodermatically, or parenchymatously (into lymph nodes). Such cases have been reported by Liebmann, von Ziemssen, Köbner, Billroth, Winiwarter, Tholen, Arning, and Wunderlich. In their cases there was generally present a multiple lymphosarcomatosis, or sarcoma of the skin. We believe that this treatment should invariably be tried in cases of intestinal sarcoma, and that it should be used also for the patients upon whom successful resections have been performed. Whether Coley's fluid would be of any value in these cases, future experience alone can decide. The remainder of the treatment is purely symptomatic.—*American Journal of the Medical Sciences, September*, 1900.

94.—TREATMENT OF STRANGULATED HERNIA.

By B. G. A. Moynihan, M.S. Lond., F.R.C.S.,
Assistant Surgeon, Leeds General Infirmary, &c.

[From Mr. Moynihan's paper on "Hernia" :]

It would doubtless be of permanent and considerable advantage if some recognised authority in dealing with this question would, of set purpose, omit all mention of the *taxis.* Taxis is in itself fraught with danger, by no means inconspicuous even in comparatively skilled hands. If it be successful so far as the reduction of the hernia is concerned, it by no means follows that the patient will recover. Bryant has estimated that the mortality after "successful" reduction by taxis amounts in inguinal hernia to 3·8 per cent., and in femoral hernia to 10·5 per cent.

If all cases of strangulated hernia were submitted to operation at the earliest moment, the mortality could hardly be more, at a generous estimate, than 5 per cent. The text-book authorities give a far greater death-rate for the operation, under the usual conditions. Rose and Carless (second edition) say "about 35 per cent.," Treves "over 30 per cent." At the Leeds Infirmary during the last fourteen years we have kept a statistical report of all surgical patients. Our mortality for that period is for strangulated inguinal hernia 17·4 per cent., for femoral hernia 23·8 per cent. The difference between 5 per cent. and these is the *mortality of delay.* During the same period our mortality for the operation for radical cure has been for inguinal hernia 2·3 per cent., for femoral hernia 1 per cent. During the last five years the mortality in each has been under 1 per cent. This includes patients of both sexes and all ages, for we do not select our cases for operation with the nicety shown at some other hospitals. Indeed, in a large manufacturing city it is hardly possible to do so.

The treatment of a doubtful or gangrenous loop of bowel in a hernial sac can hardly be considered as ordained by universal custom. Resection of the loop and suture of the ends is, from all points of view, the most satisfactory in those cases where it can be legitimately done ; but there are not a few patients in whom such a course would be wholly unjustifiable. In these the alternative courses are : (1) Opening of the bowel (*a*) with, (*b*) without, the division of the constriction at or near the neck. There are several recorded examples of persisting obstruction when the bowel has been merely opened. The division of the constriction adds no risk worth considering, and should be adopted. (2) The removal of the gangrenous loop and the stitching of the open ends to the skin, or the introduction into the distended end of a Paul's tube. (3) Helferich's operation. The pulling down of healthy bowel beyond the loop (above and below it), and the union of these by a Murphy button. The gangrenous or doubtful loop is covered with an antiseptic dressing, and resection performed when the patient has rallied.

But in all cases the surgeon must recognise that, if possible, with reasonable prospects, resection and suture should be performed. It has been said that the mortality after resection is less than the mortality after the formation of an artificial anus, and by certain of the more ardent surgeons the reference to statistics has been unduly urged. Thus in 394 cases of gangrene of the gut that I have myself collected, where an artificial anus was formed, the recoveries numbered 30·7 per cent. In 443 cases of primary resection 53·9 per cent. recovered, a difference of 20 per cent. in favour of resection. Nothing could be more utterly futile and misleading than any argument based upon this. Resection is done in the less severe cases by competent and adept surgeons, with the most desirable surroundings, with adequate skilled help. A surgeon who resected the gut in a moribund patient could have no sense of the fitness of things. In such a case the gut would be opened with the hope of giving the patient a last chance; if death followed, it would be due to the delay, not to the operation.—*The Practitioner*, *November*, 1900.

95.—A CASE OF STRANGULATED FEMORAL HERNIA.

By R. LAWFORD KNAGGS, M.C., F.R.C.S.,
Assistant Surgeon to the Leeds General Infirmary.

[The case occurred in a woman aged 61 years, and the important point in the case was that gangrene was precipitated by an intra-abdominal volvulus. The following is taken from Mr. Knaggs' remarks :]

There can be little doubt that in this case the volvulus exerted a determining influence in the production of gangrene of the herniated intestine. For years probably bowel had entered the sac at intervals and had been replaced without harm. On this occasion a small loop chanced to enter in a reversed position, and the traction exerted upon the intra-abdominal ends of the loop led to them becoming tightly crossed close up to the femoral ring. Immediately an obstruction was formed, not only to the passage of the intestinal contents but to some extent, no doubt, to the circulation. Rapid distension of the loop and engorgement of its coats ensued, and a further and more rigid interference with the circulation resulted as the femoral ring began to restrain the expanding and swelling gut. The onset of these changes must have been rapid, for one is justified in assuming that gangrene quickly supervened from the fact that fluid, with the exception of a slight smearing of pus, was entirely absent from the sac.

Elsewhere I have attempted to study the subject of volvulus as it is met with in connection with herniæ, and I have been able to recognise four well-marked groups of cases. The present case, which was met with after my first paper had been accepted for publication, is an excellent example of the first group. That group includes those cases of volvulus in which the neck lies within the sac, or outside it but close to the ring. Now, though when dealing with the subject generally both these sets of cases were classed together for pathological reasons, yet it is clear that from the clinical standpoint the relation which the neck of the volvulus bears to the neck of the sac is a matter of no small importance. When the neck lies within the sac the exact nature of the condition is at once apparent when that is opened, and the twist can be undone and the bowel returned, if fit, as in the ordinary operation for strangulated hernia. But if the neck of the twist lies close to the ring within the abdomen, its existence may not even be suspected, and if the gut is gangrenous, as is most likely where the rupture is of the femoral variety, and the case is dealt with by the formation of an artificial anus, an abiding obstruction will be left and no relief will take place. Such a condition is, however, now less liable to be overlooked, because resection of the gangrenous loop is becoming more and more the rule. But should it be decided for any reason to form an artificial anus, if no relief takes place when the bowel is opened and if the director cannot be readily introduced within the bowel well beyond the ring, then the incision should certainly be extended to investigate the condition of parts within the abdomen, and with the intention of removing the damaged gut.

It is a simple thing for a loop of bowel to enter the hernial sac in the reversed state, but when once it is engaged the twist may easily become effective. In femoral herniæ under such circumstances the danger of gangrene is greatly increased. The want of success was due entirely to co-existence of advanced renal disease which would almost certainly have prevented recovery after any operation of importance, but which, even if detected in time, could not have been held to justify non-interference in strangulated hernia.—*The Lancet, June* 16, 1900.

96.—THE SURGICAL TREATMENT OF GALL-STONES.

By Geo. Henry Edington, M.D., M.R.C.S.,
Surgeon to the Dispensary of the Western Infirmary, &c.

[From Dr. Edington's paper :]

Amongst the ideal conditions in operating for gall-stones are those in which there are either no, or at least trifling, inflammatory adhesions, and in which the gall-bladder projects sufficiently to enable one to suture it to the parietal peritoneum. The absence of this latter condition was a drawback in my first case, while my second patient exemplified the difficulties caused by the presence of dense inflammatory adhesions. The presence of both of the ideal conditions above mentioned enables the surgeon to make a thorough examination of the bile-ducts as well as the gall-bladder, and, if he deem it necessary, to attach the fundus of the latter organ to the parietal peritoneum, and so provide for the subsequent escape of bile on to the surface, without risk of soiling the general peritoneal cavity. It may be objected to this latter statement that "pure bile does not necessarily set up peritonitis, as is shown in cases of injury to the normal biliary passages, with escape of bile into the peritoneum, but," to continue the quotation which I have just made from Naunyn's well-known work, "in these cases of cholelithiasis the bile is, usually at any rate, no longer pure, but infective."

Notwithstanding this, it has been the experience of some that, in cases where the gall-bladder is so much contracted as to make its suture to the parietes of the abdomen an impossibility, intra-abdominal tension makes it easier for the bile to pass away directly through a tube inserted into the fundus of the organ than to enter the cavity of the abdomen, and that within 24 to 48 hours plastic peritonitis shuts out the drainage-tube from the general peritoneal cavity. This statement, which is taken from Mayo Robson, is, on the same page, accompanied by the remark that he himself has great faith in the method of packing round the tube with iodoform gauze. But, apart from the contracted condition of the bladder, the use of iodoform gauze as a packing is a help in such a case as my first, where a rent was made in the bladder wall close to the commencement of the cystic duct. The tacking down of parietal peritoneum to the fundus of the bladder, or the fixation of a portion of omentum round the tube, are methods which have also been recommended. The "ideal" method is to close the bladder and drop it back into the abdomen, but this can only apply to cases in which you can be certain that the ducts are not obstructed, and in neither of my patients was this so.

Coming to the question of adhesions, should these be slight they may not give one any difficulty, as I found in one case, and in the final operation in another; but when dense, as, for example, after not very remote inflammation, they may prove a source of considerable worry to the operator, and this in more ways than one. In the first place, they not only alter the relation of the parts, but may almost, if not quite, obscure the gall-bladder; while, secondly, they may prevent an examination of the ducts, a procedure which is an essential in the technique of the operative treatment of cholelithiasis. A contracted gall-bladder is very frequently met with in cholelithiasis; so much is this the case that its occurrence has been looked on in cases of chronic jaundice as diagnostic of obstruction by gall-stones rather than by a new growth.

As regards the adhesions of the gall-bladder to the neighbouring viscera, these are the results of an inflammatory process in the walls of the bile-passages. But when the adhesion is widespread and dense, there has generally been noted that at a recent period prior to the operation the patient has suffered from an attack in which the pain has been of more than ordinary severity, and which, taken in conjunction with the general symptoms, resembles what occurs in perforation of an abdominal viscus by ulceration. Such a history, coupled with the appearances met with at the operation, has led to the expression of the view that a perforation of the gall-bladder or ducts has probably taken place, and that the adhesions are the result of a conservative peritonitis. That such adhesions, if seen at a period sufficiently remote from the inflammatory disturbance on which they depend, may alter in appearance very much, we know from an examination of a case, in which, at the secondary operation, they formed very inconsiderable bands.

Incision.—The incision which I used was, in the first place, a vertical one of four inches in length, in the right linea semilunaris, but it was found necessary to supplement this by an oblique one running outwards from above the middle point of the vertical wound and parallel to the costal margin. The vertical incision, sufficient when the bladder is not retracted, did not, I found, give easy access to a deeply-situated bladder, or to the ducts.—*Glasgow Medical Journal*, *September*, 1900.

97.—TROPICAL LIVER ABSCESS.

By W. JOHNSON SMITH, F.R.C.S.,
Surgeon Seamen's Hospital Society.

[From Mr. Johnson Smith's paper :]

The surgeon when called upon to assist in justifying any steps for operative and radical treatment has to decide between exploratory puncture and exploratory laparotomy. For my own part I prefer the former, as I have almost always seen it applied with success in cases of abscess, and have never witnessed any bad results from its use. Objections have, however, been made to the needle and the syringe from time to time, and there seems now to be a tendency in some quarters to resort at once and exclusively to exploratory abdominal section. The latter procedure, there can be no doubt, if performed with proper precautions and with proper care, is a safe operation, but surely the same may be said of the much less alarming and troublesome procedure of exploratory puncture. Laparotomy under the most favourable conditions has certain inconveniences and after troubles—I am speaking of it now simply as an aid to diagnosis and as an alleviative measure—which ought to be taken into consideration. It necessitates the administration of an anæsthetic, causes much anxiety to the patient and to the patient's friends, and may result sooner or later in a tendency to ventral hernia. I am much disposed to question whether laparotomy can in the majority of cases afford us more help than simple puncture. The liver, from our present point of view, is to be regarded rather as a thoracic than as an abdominal organ. The posterior part and upper part of the right lobe may be felt, but cannot be seen, and the route to the seat of the supposed abscess may be barred by adhesions which it would be imprudent, if not dangerous, to break down. Even if this exploratory procedure reveal to us the situation of the abscess, it will usually fail to give any further assistance, as in the subsequent plan of treatment it will be found necessary to attack the seat of the disease by the same methods and the same direction as when the presence of pus has been revealed by a simple puncture. Moreover, and this I take to be a strong, though it may be a sentimental, objection to laparotomy as an exploratory measure, is the probability that the exposed and handled liver may be found to be quite healthy.

I must confess that I see no good grounds for opening the abdomen simply as an exploratory measure unless, notwithstanding the presence of high fever and localised pain and other very suggestive symptoms of abscess, the repeated use of the needle and syringe has failed to reveal the presence of purulent fluid. It would be difficult, I think, without laparotomy to find out a small abscess in the left lobe, and it is in a condition of this kind only, met with only in about 1 case in 50, that I have myself opened the abdomen and seen it done by one of my colleagues. Exploratory puncture by needle and aspirating syringe is, I believe, an almost perfectly safe procedure, provided that in this as in other operations, whether minor or major, we use a suitable instrument that is in proper working order and has been thoroughly sterilised. I have generally seen used a syringe capable of taking from 60 to 120 minims of fluid, and a hollow needle from 3 to 6 inches in length. I see no advantage in using any of the larger aspirators, such as Dieulafoy's or Potain's, as they are more complicated than the simple needle and syringe, and are liable to break down at the most critical point of our exploration. Simple puncture with aspiration is, I feel sure, not only a safe, but a very efficient, aid to diagnosis. If the needle be introduced at a bulging spot over any part in front of the liver, or at some point of extreme tenderness, or into a widened and œdematous intercostal space, it will seldom fail to reveal the presence of pus ; and if a series of from two to half-a-dozen punctures made within the area of hepatic dulness from the front to the back of the chest give no result, there will be a strong probability that the right lobe of the liver at least is not the seat of any purulent cavity. In case of failure, should the symptoms of liver abscess, with high fever, sweating, and exhaustion, still persist, we may, after an interval of a few days, again try the needle and syringe, and, if these still fail, resort at last to an exploratory laparotomy. If, as is usually the result after two or three punctures, the characteristic fluid of a liver abscess be drawn up into the syringe, an operation for giving free discharge to such fluid and exposing and draining the interior of the cavity should be practised immediately, If the patient be anæsthetised during the puncturing process, it would be very advisable to complete the operative treatment at what the French call the same sitting. This I believe to be a point of much practical importance with regard to the safety of the method of exploratory puncture. The soft parts between a liver abscess and the surface of the body may be œdematous and congested, or in consequence of some leakage of pus either antecedent to or actually caused by the introduction of the needle, may be sodden by the discharge, and, in consequence of either of these conditions, may, if not relieved by free incision, become the starting point of serious septic mischief. Moreover, if we have struck an abscess in the liver, it would be well to take full advantage of the information thus obtained, and follow at once the track of the needle.

I have known instances in which a second puncture made at the same spot after an intermission of some hours has, in consequence probably of some difference in the position of the patient, failed to give the same result, a cause of some embarrassment to the surgeon, who, in operating for liver abscess, ought, I think, to make it an invariable rule never to make a deep and free incision unless he is quite sure of the existence and precise situation of his object.—*British Medical Journal, September* 1, 1900.

98.—PANCREATIC SURGERY.

By A. W. Mayo Robson, F.R.C.S.,
Senior Surgeon to the Leeds General Infirmary, &c.

[From summary of paper read at the Thirteenth International Congress of Medicine, Paris, August, 1900 :]

In describing the treatment of carcinoma of the pancreas, the author thinks that excision of the pancreas for cancer can seldom be feasible or justifiable except in those cases where the disease is limited to the body or tail of the organ, and then only when it is caught in an early stage. Of the 15 cases on which he has operated for the relief of symptoms by cholecystotomy or cholecyst-enterostomy, nine recovered and lived for some time in greater comfort. The important fact, however, that some of the cases operated on and thought at the time to be cancer of the head of the pancreas, but which recovered, and are now in perfect health, showing the tumours to have been chronic interstitial pancreatitis, and not cancer, leads the author to advocate operation in all cases not too far advanced, especially in young or middle-aged patients, not because much good will be done if the case be truly cancer, but under the hope that the tumour may be inflammatory and not malignant.

The author has operated on five cases of pancreatic cyst, for which, as a routine treatment, he advocates incision and drainage, which he has performed in four cases, with three recoveries. In one case the cyst was so easily enucleated that it was removed in that way, and the patient made an uninterrupted recovery ; but his experience, not only in his own cases, but in others seen under the care of his colleagues, would lead him to believe that excision can only rarely be justifiable. In none of his cases were pathognomonic symptoms present, and the author thinks that the diagnosis must usually be made from the physical signs. A case of acute infective pancreatitis coming under the author's observation is related, also four cases of the suppurative form which were operated on after abscess had formed ; of two, in which the pus was evacuated by an incision in the loin, recovery followed ; of two opened from the front, both died. In both cases leakage of pus had previously occurred into the stomach and had been vomited. In one case of suppurative pancreatitis in which rupture of the abscess occurred into the bowel, the patient was too ill when seen to bear operation, and gradual recovery occurred without surgical treatment.

The treatment of acute infective, and frequently that of suppurative, pancreatitis practically resolves itself into that of peritonitis commencing in the superior abdominal region, and the author lays stress on the getting rid of inflammatory products by lumbar drainage if practicable, although it may be necessary to make the diagnosis by an anterior incision. In the acute form he draws a comparison between gangrenous appendicitis and acute infective pancreatitis, and considers surgical treatment just as necessary in one as the other as soon as a probable diagnosis can be arrived at. If there be a great distension in the epigastrium, it will be easier and safer to make the exploratory incision in the left costo-vertebral angle. Treatment other than operative in order to get rid of distension, relieve pain, fever, and other symptoms until a definite diagnosis can be made, is also considered The details of reaching the abscess when found are also discussed, whether the collection be lumbar, subdiaphragmatic, epigastric, or pelvic. The author lays great stress on the importance of chronic interstitial pancreatitis, which he believes is often mistaken for cancer of the head of the pancreas, and which he believes has not received much attention either from clinical observers or from pathologists ; certainly not as much as it deserves. His experience in this class of cases has resulted from his having operated on a considerable number of cases of jaundice depending on obstruction in the common duct, the obstructive jaundice, wasting, paroxysmal attacks of pain and ague-like seizures having given rise to the suspicion of gall-stones, and the absence of relief by medical treatment having rendered surgical treatment necessary. He argues that its recognition is of vital importance, since it is a disease not only capable of relief, but of absolute cure by surgical treatment. The author illustrates his assertion by a brief report of 15 cases on which he has operated, with recovery in 14. In the fatal case, operated on when the patient was almost too ill for recovery, an autopsy showed a simple cirrhosis of the head of the pancreas. In another case in which relief was given by cholecyst-enterostomy, but in which there was a recurrence of the trouble owing to closure of the opening, followed by death three months afterwards, an autopsy showed chronic interstitial pancreatitis, and not cancer, as the course of events had led those observing the patient to suppose would be found. The simulation of malignant disease of the head of the pancreas by chronic interstitial pancreatitis should lead the surgeon to hesitate in declining operation in any case of distended gall-bladder with jaundice where the patient is able to bear it, as, although little good will be done if the disease be malignant, should the disease prove to be inflammatory a real and permanent cure may be brought about.—*Medical Press and Circular*, *August* 8, 1900.

ORGANS OF URINE AND GENERATION.

99.—TOTAL EXTIRPATION OF THE URETER.

By WILLY MEYER, M.D., New York,

Professor of Surgery at the New York Post-Graduate Medical School and Hospital, &c.

[Only a part of Dr. Meyer's interesting paper can be reproduced here :]

Total extirpation of the ureter means the removal of the entire canal from a point just below the pelvis of the kidney to its very entrance into the vesical wall. The operation is done either simultaneously with nephrectomy (primary) or some time, sooner or later, after this interference (secondary). The primary operation is rarely carried out. It means for the patient a serious addition to the risk connected with removal of the kidney ; it requires more time and, consequently, a longer general anæsthesia, both important factors in this particular operation ; in cases of suppurating or of tuberculous kidney it will often render impossible the task of maintaining an aseptic condition of the large retroperitoneal wound. Tamponade followed by secondary suture will then become necessary. This complicates the after-treatment and prolongs convalescence. We shall, therefore, more often hear of secondary than of primary total ureterectomy. Inasmuch as the operation is always simultaneous with or consecutive to nephrectomy, the same pathologic condition that had induced the surgeon to extirpate the kidney will be found to exist in the ureter. Those who have followed the evolution of renal surgery know that conservatism has taken a firm hold in this chapter of our science. To-day the kidney is at the first operation removed only in cases of tumour, primary tuberculosis, and exceptionally severe cases of suppuration ; and even in these affections a few authors have recently argued against sacrificing the entire organ. Whether such an attitude is justified the future will show. It appears proper to review separately these three indications for primary nephrectomy recognised to-day by the majority of surgeons with regard to their influence upon a probably following total extirpation of the ureter.

(1) *Tumour of the kidney.*—As a matter of course, only malignant growths come into consideration. Of these I exclude such as did not primarily originate in the kidney. As far as I have been able to ascertain, a case of total ureterectomy for carcinoma or sarcoma of the kidney has not been reported in literature.

(2) *Tuberculosis of the kidney.*—In fourteen cases of renal tuberculosis where I had to perform nephrectomy, the ureter was not totally extirpated. In all these the wound closed without leaving a sinus, although scraping and proper treatment of the wound became necessary now and then toward the end of convalescence. If materially infiltrated, the proximal part of the ureter was resected as far down as possible ; if not especially affected by the tuberculous process, the tube was simply cut off below the kidney and dropped back into the retroperitoneal space. The latter procedure I practised up to several years ago. Since then I have modified my method, and now invariably cauterise the lumen of the distal end with a Paquelin and then tie it with catgut. Primary total ureterectomy for tuberculosis is certainly rarely indicated. Howard A. Kelly, of Baltimore, James Israel, of Berlin, and a few others have reported such cases. Here it was seen during nephrectomy that the ureter was very seriously affected. Partial resection of the renal portion would have been equivalent to an incomplete operation. In the majority of this class of cases, however, I think the ureter will take care of itself if the case had been correctly diagnosticated in the beginning of the disease and then promptly subjected to nephrectomy.

(3) *Pyonephrosis and pyonephrotic stone kidney.*—It was the operation performed on a case belonging to this class that induced me to write this article. The patient was 23 years of age.

The specimen when cut open presented a very narrow stricture at the junction of the middle and lower thirds of the canal. The part above as well as below it was much dilated. The stone had a number of sharp projections all over its circumference. They had, no doubt, caused its firm lodgement within the vesicle end of the ureter, just within its narrowest spot, the mouth. With these pathologic specimens at hand, the history of the case is easily explained :—Five years ago this stone entered the ureter, producing pain and the hæmaturia. At its entrance into the small pelvis it was arrested, causing the ulceration, followed by stricture. Later the stone itself travelled farther down, but was again held up right in front of the ureteral mouth on account of its irregular surface. This second stricture in the course of the ureter, represented by the stone, caused the dilatation of its lower third. That it was this one stone only that gave rise to the many years of sickness is proven by the fact that the patient at no time had symptoms pointing to the presence of a vesical stone, nor did he ever pass any. To-day the patient voids perfectly clear urine at normal intervals. His left side never gives him trouble ; at times he experiences pain in the right kidney. Perhaps nephrolithiasis, so often found bilateral, is now developing on his right side (?). He is long back at work, but often annoyed by his epileptic seizures.

Since writing this article I have done a second total extirpation on the ureter of a man 37 years of age, who had his left kidney extirpated by another surgeon for what seems to have been a pyonephrosis almost four and a half years ago.—*Medical News*, *September* 22, 1900.

100.—ULCER OF THE URINARY BLADDER.

By H. CRITCHLEY HINDER, M.B., Ch.M.,

Lecturer on Clinical Surgery, Prince Alfred Hospital,
Sydney, N.S.W.

[From Mr. Hinder's paper :]

Our knowledge of simple ulcer of the urinary bladder, that is to say, of ulcers which are neither tubercular nor malignant, is somewhat inadequate. Text books as a rule do not mention the condition, nor can much information be gathered from special works on genito-urinary diseases. During the last four years, in which I have made nearly three hundred cystoscopic examinations, I have every now and again met with cases of bladder ulcer which had previously been subjected to different methods of treatment following upon different erroneous diagnoses, nor could any blame be attached to the practitioner, for without cystoscopic examination diagnosis would have been impossible. In all these cases of bladder ulcer, the symptom which I have observed as being the most constant in the early stage of the disease is pain, with a desire to strain immediately after the act of micturition, and even if the patient resist the desire, it will often return again within a few minutes, an uncomfortable desire to micturate remaining until, I presume, sufficient urine has collected in order to keep the ulcer from being irritated by rubbing against the opposing side. Sometimes this is the only symptom complained of in early cases. Frequency is very common and is most usually present in advanced cases where cystitis has supervened. Frequency is observed in rare cases where no cystitis is present.

Men frequently complain of pain just behind the glans and on the lower surface of the penis. In women the pain was complained of along the urethra and within the vagina even when the ulcer is situated well back from the trigone. Suprapubic pain was found to be rather rare. If the ulcer is situated near the orifice of the ureter, very puzzling symptoms are likely to arise, and pain shooting up the ureter or severe renal pain may be experienced.

In speaking of ulcers, I do not refer to the clouded, velvety condition observed in acute cystitis when shreds and ribbands of dead epithelium are floating about, nor to superficial erosions sometimes coated with phosphates in chronic cystitis, but I am referring to distinct ulcers with distinct loss of tissue, with a depressed base and clearly defined edges, though in more recent cases, of course, the edge of the ulcer is in parts on a level with the surrounding surface.

The treatment I at first adopted was to open the bladder suprapubically and curette the ulcer. In men the bladder was drained by means of a perineal cystotomy. In women the drainage was effected per urethram or by means of a vesico-vaginal fistula. Latterly, however, far more satisfactory methods have been adopted. In men a simple perineal cystotomy is performed, and the bladder drained by means of a large metal tube, which has been before described in the *Australasian Medical Gazette*, February 20, 1899. By means of this tube the bladder was washed out every four hours with a weak antiseptic lotion, and each night with a solution of silver nitrate, one grain to the ounce. As a rule, the ulcer was healed in about three weeks time. Almost all women will bear a double-channelled glass catheter tied in without suffering from urethral irritation, and by this means the same local treatment may be adopted. In all cases the instrument must be taken out and boiled every day. The bladder may be examined once a week in order to note the progress made. This line of treatment will be found most gratifying. On one occasion in a lad of seventeen, where there was tenesmus with slight hæmaturia and only a three weeks history, the ulceration was so slight and superficial that a fortnight's rest in bed with a daily washing with silver nitrate was sufficient to bring about a complete recovery.

Bladder ulcers do heal without treatment at times, but rather rarely I should imagine, and as far as I could gather from one or two cases in which I saw the scar of a healed ulcer and obtained a history of the progress of the patient, the healing must take a very long time. At first I always examined the patient while under an anæsthetic, but this will be found to be unnecessary in many cases. If the bladder is capable of holding from three to four ounces, and if there be not too great sensitiveness to the passage of instruments, anæsthesia is unnecessary.—*The Australasian Medical Gazette*, *June* 20, 1900.

101.—LITHOTRITY AND LITHOLAPAXY IN JEYPORE.

By Dr. Durrell Pank.

The author gives the following details of the procedure employed at the Mayo Hospital :—In the case of a man or boy attending the out-door department, if the symptoms described are those of stone, he is sent to the operating-room for examination ; chloroform is only given at the time of examination to very young children, or to those patients who have acute or extensive cystitis, or who cannot stand the pain caused by the sound. If no stone is detected, the sound is withdrawn, and the largest cannula which the urethra admits easily is introduced into the bladder, and the contents drawn off ; about 2 oz. of warm boric lotion is then injected into the bladder, and the aspirator applied ; a few compressions of the bulb will often demonstrate the presence of an otherwise undetected stone, which will audibly "click" against the eye of the cannula. A stone being found, the general health of the patient is noted, and a purgative, to be taken at night, and followed by an enema the next morning, is ordered ; he also gets a hot bath on the day of admission. The operation is performed the following morning under chloroform ; two assistants are required, one on either side of the table to hold the patient's arms and legs ; a third assistant has charge of the instruments, and hands them to the surgeon. When anæsthetised, the largest cannula which will pass easily is introduced into the bladder; when the meatus is smaller than usual, it should be cut with a pair of blunt-pointed scissors, one blade of which is inserted into the urethra for an eighth of an inch, and the cut made to one side of the frænum. Two to 4 oz. of boric lotion are injected into the bladder, the cannula withdrawn, and the lithotrite introduced. When the stone is seized, the screw should be used so as to exert gradual pressure on the stone, especially in very hard, tough stones, otherwise the instrument may be damaged, and its blades bent.

If there is much cystitis, or complaint of pain after the operation, hot poppy-head fomentations are applied to the lower part of the abdomen. Persistent pain is always treated by re-exploration of the bladder under chloroform, and is sometimes found to be due to a fragment of stone left in the bladder, which should be removed by the lithotrite and aspirator in the usual way. As a rule, the patient is up and about on the day following the operation, and fit for discharge on the third or fourth day, and often earlier.

In reply to the question, what stones are most suitable for litholapaxy, the author replies, "All stones which can be grasped by a lithotrite which enters the bladder easily; I have never yet come across a stone which, when fairly gripped by one of Weiss's lithotrites, could not be crushed to fragments; the size of the lithotrite to be used in any given case is governed by the size of the urethra, and not by the size of the stone." If the urethra will not admit a lithotrite large enough to crush the stone, the choice lies between lithotomy and perineal lithotrity.

The statistics of the Mayo Hospital show that during the period 1887-1900, 473 operations were performed for stone, 177 lithotomies with 21 deaths, and 296 litholapaxis with 12 deaths. Of 175 cases of litholapaxy during the last five and a half years, the mortality was 1·71 per cent. The ages of the lithotomies ranged from 12 to 75 years, and the ages at which the largest numbers were operated on ranged between 5 and 10 years. The age of the litholapaxies ranged from 7 months to 80 years, and the largest numbers ranged between 3 and 7 years. Among 478 cases of stone, only 17 were in females. The average number of days in hospital after operation was 27·31 days in the lithotomies, and 7·87 in the litholapaxies. When it is necessary to do a cutting operation at all, the author regards lateral lithotomy as the best; but if there are doubts of successfully extracting it through the perineum, one should perform perineal litholapaxy.—*From Mr. Alexis Thomson's periscope in the Edinburgh Medical Journal, November*, 1900.

102.—ON SUPRAPUBIC LITHOTOMY IN OLD MEN WITH ENLARGED PROSTATE.

By W. Thelwall Thomas, F.R.C.S. Eng.,
Honorary Assistant-Surgeon, Royal Infirmary, Liverpool, &c.

[From Mr. Thomas's paper :]

We have but to look through any pathological museum to realise how irregularly an enlarged prostate disports itself and to notice a well-marked pouch behind the middle lobe in a great number of the specimens. Given an old man with an enlarged prostate, the stone in this pouch behind it, a congested, friable, possibly ulcerated mucous membrane, maybe some degree of septic cystitis, and the bladder-wall containing numerous small pouches bounded by prominent fasciculi—is the operation to be lithotrity or lithotomy?

The objections to crushing in these cases are: (1) The difficulty, or even the impossibility, of seizing the calculus? (2) if caught and broken, then the difficulty in finding the fragments ; and (3) granted the possibility of crushing, then, aspiration diffusing the fragments into the innumerable pits in the mucous membrane, the great uncertainty of washing out all the pieces, for in these cases the patient cannot be trusted to pass any portions left behind, they will lodge behind the prostatic enlargement and form nuclei for fresh calculi.

The difficulty of seizing a calculus behind an enlarged middle lobe with a lithotrite will be readily understood on examining museum specimens. In the first case to be mentioned, after luckily finding the stone with an ordinary sound before placing the patient under an anæsthetic, we utterly failed to find it afterwards with sound or lithotrite, although the patient was rolled about on the operation table and the base of the bladder manipulated through the rectum. That fragments are left behind after lithotrity seems very likely when we read of cases crushed many times (five, six, nine, and ten times). Over 20 per cent. of cases in a recent table, published by a skilled lithotritist required subsequent crushings. Perineal lithotomy is not applicable owing to great increase in the depth of the perineum, to such an extent in some cases that neither finger nor forceps can reach the stone. The suprapubic operation carried out with modern precautions is simple and almost bloodless : it enables the bladder to be thoroughly explored and allows of the extraction of the calculus and of treatment of the enlarged lobe if thought advisable. It becomes the proceeding of choice in the cases under consideration. Further, the bladder can be sutured and the wound be treated antiseptically.

Before resorting to the operation it is advisable to render the urine and urinary tract as sterile as possible. If cystitis with ammoniacal urine be present, the administration of urotropine in five-grain doses thrice daily and washing out the bladder with chinosol lotion (1 in 1,200) twice a day, or oftener, have answered best in my experience. Boric acid is much too feeble an antiseptic if the urine be "high." Chinosol is non-poisonous and a powerful antiseptic. It is imperative that every aseptic and antiseptic precaution should be taken in urethral and bladder surgery; to do so means absence of rigors and complications. The catheter should be boiled or steamed, the glans penis should be thoroughly cleansed with chinosol lotion, and the urethra should be washed out with the same. The lubricant used is a mixture of soft soap, glycerine, and water in the proportions of eight, six, and four. Four grains of potassium mercuric iodide dissolved in four ounces of water before mixing makes a proportion of nearly 1 in 2,000. In ordinary cases, without ammoniacal urine, the administration of urotropine is enough. It is useful in all bladder, urethra, and kidney cases that require surgical treatment to administer urotropine internally for a few days before operation—that is, of course, if the condition does not urgently demand operative proceedings.

[The details of the operation and four cases are then given.]—*The Lancet*, *June* 9, 1900.

103.—THE RESULTS OF CASTRATION IN HYPERTROPHY OF THE PROSTATE GLAND.

By Alfred C. Wood, M.D., Philadelphia,
Assistant Surgeon to the Hospital of the University of Pennsylvania.

[From Dr. Wood's paper. The author has collected the cases not included in White and Cabot's tables :]

The cases include 159 examples of castration. Thirteen of the patients died, and in one collection of 16 no statement whatever is made as to the result. Deducting these, 130 remain. Of this number the prostate is said to have decreased in size in 67 (51·5 per cent.). The period at which the reduction in size was noted varies from a few days to a few months. In four instances only is the fact stated that there was no change in the size of the gland (3 per cent.). In one instance examination after the operation showed that the prostate was larger. If we add to these the cases in which a general improvement in the patient's condition, the relief of cystitis, the return of normal micturition, and other evidences that may be assumed to indicate a decrease in the size of the prostate, we find that somewhat over 90 per cent. may be said to have been benefited. This refers, of course, to those who survived the operation only. It is either stated or implied in 74 instances (57 per cent.) that the function of micturition was improved or wholly restored. In but one instance is it stated that there was no change in this respect. Cystitis was relieved or cured 24 times (18·5 per cent.). The length of the urethra diminished in a number of cases, the amount varying from half an inch to two inches. The residual urine was diminished in quantity or disappeared in 32 cases (25 per cent.). In 87 cases (67 per cent.), it is either stated or implied that there was a general improvement in the patient's condition. This occurred sometimes in connection with a notable change for the better in some of the other features, and sometimes it was the only result noted. In but six instances is it specifically stated that there was no improvement (4·6 per cent.)

In the 159 cases there were 13 deaths, a mortality slightly exceeding 8 per cent. The deaths were as follows :—No. 1, sepsis from the pyuria ; no autopsy. No. 3, autopsy showed pyelonephritis. No. 11, surgical kidneys. The author says, "He should not have been operated upon." No. 14, suppression of urine fourth day. No. 31, asthenia. No. 46, emphysematous phlegmon. No. 50, exhaustion. No. 71, not stated. No. 79, pneumonia. No. 89, exhaustion. No. 118, infection of wounds and secondary deposits ; pyelonephritis. No. 157, weakness. No. 158, hiccough and exhaustion. No. 159, exhaustion. Even in the fatal cases an improvement was frequently observed. In Case 1 the reporter says, "Improvement noted during ensuing week (after castration). There was rapid subsidence of the prostate ; it was reduced more than one-half." Case 3 had been entirely dependent upon the catheter for three months. On the eighth day after castration urine was passed spontaneously. On the fourteenth day the prostate was found to have decreased in size. Death occurred on the twenty-second day after operation. Case 11 did not react well after the operation, but the catheter withdrew urine at nine inches, whereas before the operation urine was not drawn at less than ten inches. In Case 31 it appears that improvement was observed on the third day after castration. Urination was less frequent, the pain was greatly relieved, the residual urine diminished, and spontaneous micturition returned in five days. There was marked decrease in the size of the prostate. The patient, who was in very feeble health before the operation, gradually failed. Of Case 71 the reporter says, "The urinary symptoms and general condition had at one time sufficiently improved to hold out hopes of recovery, but he succumbed at the end of a few weeks, showing no decrease in the size of the prostate. Case 118 had been unable to pass a drop of urine without a catheter for months. There was a purulent catheter urethritis and the kidneys were diseased. On the third day after castration the urine was passed in drops. Two-and-a-half days later several ounces were passed voluntarily. At the end of ten days the operative results were satisfactory, but death occurred in five to six weeks from infection of the wounds and secondary deposits. The autopsy showed pyelonephritis. In both Cases 157 and 158 there were some evidence of improvement before the fatal issue. The reduction in the mortality is due no doubt to a more careful selection of cases and to greater discretion in recommending the operation. It will be observed that in a considerable number of fatal cases the kidneys were infected as the result of the prostatic enlargement, and the former condition would usually have been prevented by proper treatment of the latter at the right time.

A few instances of mental disturbance are reported. Case 4 exhibited a mild delirium for a time, from which he fully recovered. Case 12 suffered from active delirium during convalescence, but fully recovered. Case 14 had subdelirium. Case 15 became melancholic, but improved under the administration of fresh sheep's testes. Case 52 suffered from mania, which, however, entirely passed off. Case 141 was said to have some cerebral trouble. On the other hand, it is to be noted that in some instances the mental and physical vigour of the patient was distinctly improved as a result of the operation. Of the unusual symptoms may be mentioned polyuria in two cases (No. 8 and No. 9); both patients recovered. Case 104 suffered from "hot flashes" after the operation. Case 105 had marked ptyalism after the operation. The operator, Dr. Howard Lilienthal, refers to the possible connection between the action of the parotid and that of the testes, and refers to the metastatis sometimes observed in mumps. No case of change in the voice, "femininity," or alteration of the disposition—conditions which certain authors have cited on theoretical grounds as objections to the operation—is mentioned in this series.—*Annals of Surgery*, *September*, 1900.

104.—THE TREATMENT OF GONORRHŒA.

There is no single remedy or procedure capable invariably of curing gonorrhœa within a certain limited time. It is pretty generally agreed that an ordinary uncomplicated attack of specific urethritis is not a dangerous disease. The conditions are, however, different at once a complication arises, and in accordance therewith gonorrhœa may become a serious or even a grave disorder with unlimited possibilities in the way of sequelæ.

Casper (*Berliner klinische Wochenschrift*, No. 22, 1900) advises against all abortive treatment as not accomplishing the desired object, but favouring the occurrence of complications. The symptoms of the disease do not appear until some days after the gonococci have penetrated the mucous membrane of the urethra. The introduction of instruments into the urethra during the acute stage, so long as a florid, purulent discharge is still taking place, is contraindicated, as are also injections that induce irritation of the urethra or aggravate existing inflammation. Some cases of acute gonorrhœa set in with marked inflammatory manifestations, while others are wholly unattended therewith. The latter occur especially in patients who have previously had gonorrhœa. In both groups injections may be begun on the first day, but in the first no remedy should be employed that causes irritation or aggravates the inflammatory process, such as preparations of silver. Under these circumstances potassium permanganate may be employed in dilutions of from 1 : 10,000 to 1 : 8,000. In the less acute stage injections of antiseptic silver salts are useful, and of these the nitrate is the best. This may be employed first in a concentration of 1 : 10,000, gradually increased to a strength of 1 : 4,000. Both of these are irritating, and should therefore never be employed alone, but always in association with astringent, secretion-reducing, and antiphlogistic agents. Thus, a combination of silver nitrate with potassium permanganate is injected first; then silver nitrate and zinc sulphate are subsequently employed; and finally potassium permanganate and zinc sulphate in the last stage. The more frequently the injections are made the better. Attempts have been made to destroy the gonococci and control the secretion by means of a single preparation—zinc permanganate—but this has not proved so successful as the combination of zinc sulphate with potassium permanganate.

Similar principles govern the treatment of acute gonorrhœal cystitis. In a large number of such cases improvement and recovery can be brought about by means of diet, rest, diuretics, and balsamics. Should these fail, and the second portion of urine voided remain turbid, resort may be had to irrigation through a catheter of the posterior urethra with solutions of silver, but this should not be begun too early. In cases of chronic gonorrhœa in which the injections, usually made by the patient, do not reach the affected parts, namely, the posterior urethra and the more superficial layers of the submucosa, relief can be afforded with certainty and promptitude by means of instillations according to the method of Guyon, or irrigation with potassium permanganate according to the method of Janet, or a combination of both.

Two varieties of chronic gonorrhœa occur that do not respond even to local measures, namely, one that resists treatment of all kinds, and another that yields only so long as the treatment is maintained, but recurs as soon as this is suspended. The first is almost always glandular and infiltrating, and the other is attended with the presence of inflammatory processes in adjacent glands, especially the prostate. The former is rather uncommon, and the treatment should be jointly mechanical and chemical. Bougies may be used, dilatation of the urethra may be carefully and judicially practised, local urethrotomy may possibly be undertaken, and injections and irrigations should be employed in the intervals.

The proportion of cases of chronic urethritis complicated by prostatitis is quite large. The diagnosis must be based upon the discovery on microscopic examination of leucocytes in the fluid expressed from the prostate gland through the rectum. The results of treatment in these cases are not very gratifying. The composition of the prostatic secretion is uninfluenced by the use of iodine or ichthyol or electricity, or of injections of hot water, although the subjective symptoms may be relieved by the last. Cauterisation has been proposed in the treatment of prostatitis, but the results cannot yet be definitely estimated. The only certain and harmless means of influencing favourably the morbid process consists in systematic massage and expression of the gland. This should be done three times a week for months by a masseur, while urethral injections are made or irrigation is practised. Should these fail, the treatment selected will depend upon whether the process is still infectious or not; namely, whether gonococci are present in the discharge or not. In the former event the treatment by well-known methods should be persisted in until the cocci have disappeared. In the other cases no further treatment may be required at all.—*From a leading article in the Medical Record, July* 21, 1900.

105.—INTERNAL URETHROTOMY.

By WILLIAM H. BENNETT, F.R.C.S.,
Surgeon to St. George's Hospital, &c.

[From Mr. Bennett's paper on "Some Points connected with the Management of Stricture of the Urethra":]

I do not propose to occupy your time now with a full description of the method of treating stricture by internal urethrotomy, but I wish to call your attention to one detail of the plan because it will give me an opportunity of dealing briefly with some aspects of urethral spasm, a most important factor in the management of stricture. An essential detail after internal urethrotomy is the introduction of a catheter of the largest size which the urethra will admit, the size varying, according to the capacity of the individual, from No. 14 (English) to No. 18, or possibly larger. It is necessary that the instrument thus introduced should lie in the urethra free and easily movable to and fro without being held in any way by urethral spasm; should the instrument be grasped firmly by the urethral walls so that it cannot be easily moved forwards and backwards, the defect is due to one of two conditions, either the stricture has been insufficiently divided or the instrument is of a larger size than the *meatus will carry comfortably*. If the meatus has been already slit, either in the withdrawal of the urethrotome, a plan which I always adopt, or by a separate incision, any holding of the instrument will be due to *imperfect division of the stricture*. If, on the other hand, the meatus has not already been slit, urethral spasm will *very frequently occur*, *no matter how free the division of the stricture may have been*. Such spasm will, as a rule, entirely disappear when the meatus has been slit sufficiently to allow of the instrument in use being passed easily through it. My objects in emphasising this point are mainly two: (1) I wish you to understand that in the absence of free slitting of the meatus in internal urethrotomy the fact that the instrument introduced is tightly held by spasm is no evidence of insufficient division of the stricture; and (2) that urethral spasm, when it occurs *during the introduction of instruments*, is often largely due to reflex causes resulting from irritation of the lips of the meatus by the passage of an instrument of a larger capacity than the meatus will comfortably carry. The difficulties arising from urethral spasm in the treatment of many cases of stricture are too familar to you all to need much comment, but that the spasm in many cases is practically dependent upon *irritation of the meatus*, *rather than of the stricture itself*, is not, I think, commonly known. An intelligent appreciation of this fact is so helpful in the management of some cases that a few moments may be usefully devoted to the consideration of the matter. In many people in whom the urethra is quite normal, so far as any pathological condition is concerned, irritation of the lips of the meatus, by (for example) nipping either one of them with a pair of toothed forceps, will cause spasm in the deeper portion of the urethra. The effect cannot be produced in all persons, as the susceptibility of different individuals varies so much in degree, but that it occurs in many may be proved by passing a No. 8 or 9 English bougie six or seven inches down a normal urethra; in the majority of cases it will be found that the instrument lies comfortably in the urethra, and can be moved to and fro without resistance. If, now, one of the lips of the meatus be picked up in a pair of sharp forceps and gently pinched, it will be found in a certain percentage of people that pain deep in the urethra follows, and that upon attempting to move the instrument backwards or forwards it is tightly held by spasm, which subsides in a short time after the irritation of the meatus lip has been removed. Further evidence of the participation of the lips of the meatus in urethral spasm is shown by the manner in which a catheter or bougie is often grasped by them during its withdrawal after an unsuccessful effort to deal with a stricture complicated with spasm. The practical use of a knowledge of the intimate relation between irritation of the meatus and urethral spasm is obvious. In the management of all cases of stricture of the urethra in which spasm is a predominant factor care should be taken that the instruments used are of a size which the meatus will comfortably carry, in order to avoid (1) the increase of spasm if it already complicates the stricture; and (2) to prevent, as may be done in some cases, the occurrence of spasm altogether. In dealing, therefore, with this class of case it is well, when it is necessary that an instrument of a large size should be passed through the stricture, to use a bougie with a bulbous end (say, for example, size No. 10 or 12, English) the shaft being much smaller (say No. 6, 7, or 8). It is quite curious how an otherwise difficult case, in which spasm is an obstacle to progress, often becomes easily manageable in this way. Failing the use of an instrument of this kind, a free division of the meatus in front or behind (*i.e.*, towards the frœnum), preferably the latter, will in a considerable percentage of these troublesome cases render their management comparatively easy by increasing the capacity of the meatus, and paralysing for the time being its power of contraction. Please understand that I do not recommend you to adopt division of the meatus as a *routine treatment*, but I wish to make you acquainted with an easy method of rendering the management of some of these difficult cases comparatively easy by a very simple plan based upon common-sense principles.—*The Practitioner*, *p.* 621, 1900.

106.—UROTROPINE.

By Edward L. Keyes, Jun., M.D., New York.

[From Dr. Keyes' paper :]

Concerning the more important effects of urotropine (the ammonium salt of formaldehyde), the following data may be accepted as axioms : (1) The effects of urotropine are almost entirely confined to the urinary passages ; (2) these effects are due, in part at least, to the liberation of formaldehyde in the urine ; and (3) these effects are : heightened acidity, marked antiseptic properties, and variable irritation of the neck of the bladder. The dose of urotropine is given as 15 to 45 grs. a day, and most writers assert that the irritation, the pollakiuria, and dysuria caused by it are not to be found if the daily dose is kept below 30 grs.

The following case, however, is an example of a sharp reaction to a much lower dose. *Case* 1.—Mr. W. S., aged 70 years, has had locomotor ataxia and paralysis of the bladder since 1868. The use of the catheter long ago occasioned cystitis and pyelitis, both of which are controlled by systematic catheterisation, daily washing of the bladder with boracic acid or silver nitrate solution, and the use of salol, 45 grs. a day. In this case the action of the drug has been eminently satisfactory, for, although it has not effected a cure, and possibly never will, yet, while respecting the marked idiosyncrasy of the patient, it has greatly aided him in his long fight against infection.

In marked contrast to the above case is the following, in which high doses were necessary to conquer a similar infection, although it was attacked while yet in an early and mild stage. *Case* 2.—S. E., female, aged 28 years, suffered from a puerperal pyelitis.

The contrast of vesical irritability in these two cases is sufficiently startling to demand explanation. I believe that the matter is entirely one of idiosyncrasy. Neither can I explain why the effective dose for the long-standing inflammation of Case 1 was ineffective in the comparatively acute inflammation of Case 2. The clinical point which this latter case suggests is that the drug must sometimes be pushed to the limit of endurance in order to conquer the inflammation, after which a lower dose will suffice to hold it in abeyance and finally to wear it out. A noteworthy point, in both cases, and one which has come up in a number of others, is that the effect of urotropine on a urine swarming with bacteria may not be apparent at the first glance, but may require the aid of the centrifuge and microscope to show that the bacterial haze has been replaced by a purulent or epithelial cloudiness.

The following case exemplifies the effect of urotropine upon one of the commonest forms of urinary septicæmia. *Case* 3.—Mr. C. D., 32 years of age, had urethritis, prostatitis, vesiculitis, and cystitis.

I have obtained similar happy results as in this case in dilating strictures without a chill, in which I believe urotropine internally and silver nitrate locally were responsible for the result. In fact, it is my custom to employ urotropine in any case in which urinary chill or septicæmia is present or threatening, especially in operative work.

The following case was, as much as anything else, the foundation for my present routine practice of administering urotropine before as well as after all operations upon the urinary organs. *Case* 4.—Mr. A. B., about 40 years of age, submitted to an external urethrotomy for stricture. During the twenty-four hours following operation he passed but two or three ounces of urine. Urotropine acted here as a diuretic.

Since instituting the use of the drug I have several times observed a similar post-operative diuretic effect, though never in so marked a manner as in this first case ; but in no case have I known the drug to have any diuretic or other beneficial effect on chronic uræmia. How it might affect the acute uræmia of Bright's disease I have had no opportunity to judge. I have not yet met with a case of post-operative suppression since using urotropine. One accident, viz., sloughing from formalin irritation, has occurred, however, in this connection, which I wonder at not having seen reported heretofore. It is certainly a serious mishap, and one that is likely to occur frequently. It occurred in a case of suprapubic prostatectomy. The patient, a man aged 65 years, recovered. My experience with other operative cases, both before and since, convinces me that this tendency to slough is an idiosyncrasy, comparable to the tendency to bladder irritation ; but, though unusual, it is none the less important.—*The Therapist, November* 15, 1900.

AFFECTIONS OF THE EYE AND EAR.

107.—"EYE-STRAIN" FROM VARIOUS CAUSES.

By Ambrose L. Ranney, A.M., M.D.,
New York.

[The following is from Dr. Ranney's paper :]

Strange as it may seem to cultivated and intelligent medical men, the purchase of glasses by the wealthy as well as the poorer classes is commonly made to-day without advice from any oculist. More harm is thus done to the eyes and general health of the community than can be computed. The evil is sure to continue and grow until the medical profession and the general public at large are made to realise the truth and importance of the following statements :

(1) The proper selection of glasses is most important from the standpoint of future health. Serious harm to the eyes (and general health as well) may follow the bad refractive work done by inexperienced people.

(2) No glasses should ever be bought without a prescription being first obtained from an oculist.

(3) No glasses (even when prescribed by a competent oculist) should ever be used until the correct grinding of the glass and its setting is verified by the oculist who prescribed it. Serious mistakes are too often made in filling a prescription for glasses, even by opticians of repute. Glasses have by mistake been given to one patient that were ground for another, in my own experience; they have frequently been interchanged by accident, after being properly ground, and were thus put over the wrong eye ; they sometimes get reversed in putting them into the frame, thus placing the wrong side of one or both glasses next to the eye ; and many other similar or worse blunders are being constantly made by careless or stupid workmen. Such mistakes on the part of opticians frequently reflect great and unjust discredit later on upon the oculist who prescribed the glasses ; may do serious harm to the patient who wears them ; and lead in many ways to disturbing annoyances that could easily have been avoided.

(4) Glasses may be properly prescribed and ground, and yet be so improperly set in the frame as to be worse than useless. Almost every day some patient appears in my office with glasses

that do not fit the face, causing one or both lenses to set too high or too low, or, more often, too wide for the eyes or too narrow. Oftentimes extreme decentering of lenses subjects the patient to constant torture, because they act not only as a refractive correction, but also as prisms that disturb the proper action of the ocular muscles. In such cases the oculist is very apt to be blamed for the suffering caused. He frequently loses not only the confidence, but also all further patronage, of valuable friends from such mistakes made by others, simply because he failed to personally inspect the fit of the frames given by some incompetent or careless optician. Women naturally prefer, as a rule, wearing nose-glasses rather than spectacle frames. It should be remembered, however, that the slightest bending of the nose-clips of such frames may produce a mal-position of one or both of the lenses; and even placing the frame upon the nose in an improper manner may also seriously modify the effect of the glasses. In patients where a high degree of astigmatism exists, it is always best to educate the patient as to the vital importance of watching the eye-glasses constantly to see if they set properly before each eye. It is almost a part of life's routine for an intelligent woman (wearing nose-glasses constantly) to have the nose-clips frequently re-adjusted by skilful opticians. They get so easily out of adjustment as to constitute to men a source of great annoyance, as a rule. Spectacle frames are therefore worn by most active men during business hours in preference to nose-glasses.

(5) No tests made with a view of finally deciding in regard to suspected errors of adjustment of the eye-muscles are of any value until the refraction of each eye is first separately and accurately measured, and, if deemed important, corrected by proper lenses.

(6) There is no rational basis for an extreme statement that has been too frequently published by certain oculists (evidently with a limited experience in the investigation of heterophoria), viz., "that errors of adjustment of the eye-muscles are invariably due to errors of refraction." It is full time that this prevalent error be publicly stamped as absurd, unproved, and a fallacious basis for creditable work! In my late work, entitled "Eye-strain in Health and Disease," I have personally published a sufficient number of cases to convince any judicial mind of the accuracy of the foregoing comment. Furthermore, there is not a prominent investigator in this special line of eye-work (who uses modern instruments and modern methods) that cannot endorse it from his own experience.—*New York Medical Journal*, *October* 6, 1900.

108.—OPHTHALMIA AMONGST THE POOR OF LIVERPOOL.

By W. ALEXANDER, M.D., F.R.C.S.,

Surgeon to the Royal Southern Hospital and to the Liverpool Workhouse Hospital.

[The following is from Dr. Alexander's paper. He obviously draws attention to a most important subject :]

Nearly a thousand admissions of these children into the Liverpool Workhouse in the course of three years—a very large number indeed, and one-tenth of them more or less blind—where do these children come from ? Mostly from the slums of Liverpool, and many of them during "school age" are in daily attendance at our *elementary schools.* Few surgeons will deny at the present day, that all these forms of ophthalmia are contagious, *i.e.*, that if the secretion from an affected eye be carried to a healthy eye, the latter will thereby become affected. Practically speaking, many of these cases are, however, contagious in a very *mild* degree, provided there is very little discharge and that care is taken that the disease is not carried by towels, &c. Again, the contagiousness of the chronic disease is insidious in its approach, and eyes that are gradually becoming granular present no evidence to the superficial observer, and cause very little annoyance to the child affected. The disease is therefore often unknown to or ignored by parents and teachers until an acute attack of inflammation discloses the affected eyes. Hence, in schools, the number of cases of the disease slowly increases without attracting attention where one or more infected children have gained admission. It does not, however, spread very rapidly in day-schools, where the percentage of ophthalmia is never great ; but it spreads with great rapidity in squalid houses, or in badly ventilated dormitories, where foul air, dirty water, towels and handkerchiefs, are things in common. At the present time, the poor law schools are practically free from the disease, or ought to be, because it is forbidden by the Local Government Board to have them admitted there. This is a good thing for the healthy poor-law children, but what about the infected children found in the slums and in the various low-class schools of the city ? What becomes of these children ? The simple cases recover readily, and especially if the child is a vigorous one with a good deal of spirit and fondness for the fresh air ; others become better and worse for years, have spells of treatment somewhere occasionally, with marked improvement if the child is old enough to attend a hospital by itself; a great many drift finally to the workhouse, and the results of the disease are seriously detrimental both physically and socially to the sufferers.

The preventative treatment of chronic ophthalmia must begin in the homes of the poor if any real good is to be done, and the homes of the poor where ophthalmia exists can be ascertained through the school and the hospital. All the elementary schools should be inspected regularly, in order to detect the disease in its earliest stages by medical men well experienced in the signs of the disease in an early stage. The home from which such a child comes should be visited, and the condition of the eyes of the other inmates ascertained. Should a child present itself at a hospital, the same course should be adopted. In fact, the disease should be notified. In addition to the medical inspections, the teachers should be directed to pay attention to any eye symptoms, such as discharge, intolerance of light, &c., occurring in any child between the regular inspections.

When the affected children are discovered, how are they to be treated, and where? At present there is no provision for the disease, outside the Workhouse Hospital, for many of the cases. If ophthalmic hospitals would take these cases and make them in-patients, and keep them until a cure was effected, or if ophthalmic schools were established where education and treatment must go hand in hand, then some good would be done and much impairment of sight prevented; but until this is done, the most of the treatment of these cases must fall on the workhouse hospitals.

The treatment of these cases in the workhouse was, until about two years ago, very unsatisfactory in many ways. The treatment of these chronic cases takes months and sometimes years to produce a cure, and as soon as the circulation of the cases was stopped, the numbers accumulated until we had about 120 in the wards. The acute signs were subdued, and we wanted fresh air and open space—two great agents in treatment. It was astonishing how quickly the little ones pulled up in the Convalescent Home, and how soon the discharge from the eyes dried up. Several went out practically blind with tightly closed lids and almost opaque cornea, and have been sent to school, seeing well, bearing the scars of the disease.

The actual treatment of chronic granular lids is a matter in which surgeons differ considerably. Some believe that the hygienic treatment is all that is required; and that is probably so for follicular conjunctivitis, unless accompanied by discharge and redness, when simple astringent and antiseptic lotions suffice. But for granular lids this expectant treatment fails, being too slow to be practical. I am quite convinced that active, daily, persistent treatment lessens the duration of the disease, substituting months for years, and diminishing the scars and deformities in the same proportion. The active treatment we adopt is simple, and is the result of our experience of a great number of methods of treatment. It consists in turning out the lids so well that the lotions can be applied to every part. A little holocaine is applied by a nurse, and then if there is much discharge, a ten-grain solution of nitrate of silver is applied with a small dab of cotton wool at the end of a small piece of stick. The discharge, if stringy, is wiped out with another mop previously. Each mop is thrown away as used and burned. If the eyes are congested without much discharge or with soft velvety granulations, then we generally use sulphate of copper or nitrate of silver solution of the same strength. When there is not much discharge or inflammation, but granules, papules, sago grains, and the like, we always use the solid copper sulphate, rubbing it over the cocainised eyes wherever granulations appear. There is no doubt of the efficacy of this treatment persistently carried out for months and sometimes for years. This treatment is tedious, and hence methods of hastening it have been adopted. One that we have used most frequently is the expression of the granulations by Knapp's roller forceps, and afterwards rubbing the bruised surface of the lids by means of a tooth-brush. The sago grains are expelled and torn up by these means, and cicatrisation hastened. We have tried excision of the most affected folds of the conjunctivæ, linear incisions through the affected tissue, and various other ingenious and sometimes useful methods, but they are not so effectual as expression and brossage. Even these last operations are not so often done by us now as formerly, as we found the intelligent and persistent use of the solid sulphate of copper the most satisfactory. When education and treatment can go hand in hand, the violent methods of treatment are not so necessary ; and when all the children of our schools are so inspected that the disease must be detected in the early stage and then kept under control till cured, operative methods of treatment will never be required.

Blepharitis.—This disease we treat by washing and scrubbing the edge of the lids with ethereal soap, epilation if necessary, and the use of antiseptic ointments and lotions, according to the cause of the disease. The secondary inflammation of the conjunctiva we treat by astringents, on the same principle that we treat the different forms of conjunctivitis.—*Liverpool Medico-Chirurgical Journal*, *July*, 1900.

109.—SCROFULOUS KERATITIS.

By H. GRADLE, M.D., Chicago.

[From Dr. Gradle's paper :]

It is well known that the phlyctenular and allied types of corneal disease occur mainly in distinctly scrofulous individuals. It can also be readily observed that the more severe and rebellious forms of keratitis coincide with the most pronounced general manifestations of scrofula. The question, therefore, occurs whether these forms of eye disease are not by themselves evidence of the existence of a tubercular focus somewhere in the lymphatic system. I do not mean that they are tubercular lesions due to the presence of the tubercle bacillus. But the conclusion seems to me well founded that these types of keratitis occur only in individuals under the influence of poisons produced by the tubercle bacillus in one or more lymph-glands. The occasional rare observation of the eye disease in apparently non-scrofulous subjects is more logically explained by the existence of a small hidden tubercular focus than by assuming them to be exceptions to an etiological relationship so well established by clinical experience.

Regarding the efficacy of local treatment, I believe I can add an item to the mooted question as to the advisability of atropine. In all forms of corneal disease in which the ciliary injection is strictly localised to the quadrant of the lesion, the use of atropine is irrelevant and unnecessary. Its subjective and objective influence is generally apparent, however, whenever the ciliary injection is diffuse, especially in the case of deep lesions. The more superficial the process the less the beneficial effect produced by atropine. The influence of atropine upon the disease can also be judged by the reaction of the pupil. Prompt dilatation shows that nothing will be gained by continuing its use, while resistance to dilatation may be stated as a definite indication for its further use.

In spite of appropriate local treatment and attention to existing complications, a small number of cases of scrofulous keratitis prove very refractory. I do not refer, of course, to typical phlyctenules, as these are always transient lesions, although they may be followed by very persistent localised infiltrates. Apart from these infiltrates it is essentially the more extensive lesions of later attacks which may continue and extend, notwithstanding proper care. It is for this class of cases that I can recommend salicylate of sodium internally. I have only used it when all other treatment had failed to influence the disease after a trial of reasonable duration—

altogether in about twenty instances. Of these one-fourth were not influenced perceptibly, in three the results were either transient or a mere coincidence, while in more than one-half of the cases an unmistakable improvement in the subjective and objective condition was obtained within 48 hours. Large doses are required, one to one and one-third grams every two to three hours for an adult; two-thirds of a gram at a dose for a three-year old child, perhaps four times per day. Ringing in the ears or depression may enforce a temporary interruption. Small doses are useless. The remedy is best tolerated in the form of tablets—five grains. If no influence is perceived after the steady use during two days, it is useless to continue it. In favourable cases it may be omitted on trial after a few days. Sometimes the recovery will continue at the same rate, in others it is best to resume the drug. In a few instances in which prompt effects were obtained at first, the remedy seemed to lose its influence after a while. There is hence nothing specific in its action. Its influence was most pronounced in the cases accompanied by much suffering. The form of the disease over which it had the least control was the circumscribed post-phlyctenular infiltrate.—*Journal of the American Medical Association, August* 11, 1900.

110.—CHRONIC GLAUCOMA.

By Francis Richardson Cross, F.R.C.S.,
Ophthalmic Surgeon, Bristol Royal Infirmary, &c.

[From Mr. Cross's paper read before the British Medical Association, 1900:]

The disease is usually discussed under two headings: (1) Chronic inflammatory glaucoma—progressive, with occasional exacerbations of congestion, which may be very temporary or of longer duration; (2) simple glaucoma. There may be varieties that seem intermediate between the simple and inflammatory forms of the disease. A case that has been clearly diagnosed as one of chronic inflammatory glaucoma requires immediate operation by sclerotomy or iridectomy as imperatively as does an inflammatory case with acute or subacute symptoms. It is in glaucoma simplex that the difficulties arise in regard both to accuracy of diagnosis and to treatment. Many of the objective symptoms of glaucoma are absent. There is no pain or inflammation, and no peculiar appearance of the eye-ball. The scleral veins are little, if at all, enlarged; the pupil is normal, or but slightly dilated or sluggish;

the aqueous chamber is but slightly shallowed, and the eye-ball tension may be scarcely raised. There may be no subjective symptoms of defective eyesight, and central vision is often practically normal. But a closer investigation with the help of the perimeter and of the ophthalmoscope will enable us to clearly recognise the real nature of the disease. Ophthalmoscopic examination may show the presence of a pulsating artery (noted in $\frac{10}{47}$ of my cases) or of a deep and typical cupping of the optic nerve, but the appearances may be less characteristic, some degree of anæmia or atrophy of the disc, with possibly slight pushing of the vessels towards its nasal side, and may leave us in doubt whether the case is essentially an insidious glaucoma or an optic atrophy. Even a shallow cupping over the whole papilla may be due to the degeneration of atrophy and irrespective of any increase in the intraocular tension. Moreover, we commonly find that simple glaucoma, especially in its later stages, is complicated by atrophy. Thus of the 47 cases quoted 20 were associated with definite atrophy, and in four the presence of glaucoma was scarcely recognisable. There was no note made of atrophy in the remaining cases, but it may have been present in some degree.

The perimeter is of special value in helping to distinguish between the two diseases. Defect in the nasal portion of the field of vision, though it is occasionally associated with uncomplicated atrophy, is strong presumptive evidence that the case is a glaucoma. The colour sense is said to be usually retained in glaucoma until late in the disease ; while it is early impaired in optic atrophy. Progressive simple glaucoma will sooner or later be complicated by atrophy, and if operation is to be of service it should be done before the limitation of vision approaches dangerously near the centre of the field. If the patient is nearly blind, the atrophic changes are not likely to be arrested by the relief of the slight amount of excessive eyeball tension present ; on the other hand, if there is sight worth saving, the best chance of doing so is by relief of the glaucoma.

As bearing on the prognosis in a case of simple or chronic glaucoma if left to itself, I would mention how often in an acute or subacute glaucoma insidious symptoms of increased eye-ball tension have been present for a longer or shorter period, prior to the inflammatory stage of the attack. In 92 of my cases of acute or subacute glaucoma, I have it noted of 50 that definite prodromata had been present for some time previously. These prodromata are analogous to the symptoms of a simple glaucoma ; in fact, I find it difficult to distinguish between them, and just as an inflammatory glaucoma is preceded by prodromata, so may any case of simple glaucoma become suddenly blinded by an acute inflammatory attack, or may be converted into a chronic inflammatory glaucoma by occasional temporary congestions. Moreover, the serious nature of even the most insidious cases is evident from the effect produced on them by action of mydriatics, or even by such moderate dilation of the pupil as is associated with anxiety or with mental or bodily fatigue.

The cases of increased eye-ball tension which are eventually operated upon with acute symptoms, or under unfavourable conditions, have nearly all passed through a less violent but no less real condition of glaucoma, which might have been easily and effectually operated on at an earlier stage. It is comparatively simple to do a good operation on an eye that is painless and not congested, much more difficult on one that is inflamed and strangulated. But while on the one hand pain and inflammation must be relieved (and, if necessary, by operative interference), there appears to be no such urgency during the indefinite symptoms of incipient or simple glaucoma. Not everyone will face the risk of an operation upon an eye whose vision is practically perfect, and of which no definite complaint is made. A slight simple glaucoma may perhaps occasionally be cured by the use of myotics, under comfortable surroundings, with rest and avoidance of worry. Personally I do not remember to have ever effected a cure by drugs of simple glaucoma where the symptoms were definite, though one has often had suspicious cases in which the symptoms have disappeared, and others where slight definite symptoms have continued in abeyance.

Where the glaucoma remains in the incipient stage, it may be justifiable to continue the treatment by myotics until there is definite evidence that, despite their use, symptoms of tension are increasing—but then something further must be attempted. A retrospect of my cases conclusively shows that, sooner or later, progressive deterioration of sight is the rule in simple glaucoma under medical treatment alone.—*British Medical Journal, October* 6, 1900.

III.—SPONTANEOUS DISAPPEARANCE OF SENILE CATARACT.

[The following is from Mr. Treacher Collins' summary in *The Practitioner*:]

Dr. Walter L. Pyle, in the *Philadelphia Medical Journal* for March 17, 1900, gives an interesting article on the various ways in which spontaneous disappearance of senile cataract may occur, with the report of a case which came under his own observation.

A careful digest of the literature upon the subject leads him to classify the recorded cases as follows :—(1) Cases in which there was absorption after spontaneous rupture of the anterior or posterior capsule ; (2) cases in which there was spontaneous dislocation of the cataractous lens ; (3) cases in which there was intracapsular resorption of the opaque cortex and sinking of the nucleus below the axis of vision, after degenerative changes in Morganian cataract, without rupture or dislocation of the lens ; (4) cases in which there was complete spontaneous resorption of both nucleus and cortex without reported history of ruptured capsule, dislocation, or degenerative changes of the Morganian type ; (5) cases of spontaneous disappearance of incipient cataract without degenerative changes or marked difference in refraction.

Dr. Pyle considers his own case as belonging to the fourth class, and describes it as follows :—The patient was a man of 73, who had marked senile changes in his circulatory system as well as prominent muscular and nervous symptoms. Several months before his first visit to me he had an attack which was at first diagnosed as apoplexy, but later was judged to be severe cerebral congestion with effusion. His vision had always been satisfactory until a few months before I saw him. He distinctly stated that 25 years before a greyish spot came over his pupil, and he became blind in his left eye. He consulted Dr. Holmes, of Chicago, who diagnosed mature cataract. Operation was deferred on account of the perfect vision of the right eye. Ten years later the cataract had become totally absorbed. At my first examination I found an absolutely aphakic eye, with no signs of lens or capsule. The anterior chamber was very deep, and the iris was tremulous and slow to react. The media were perfectly clear, but there were evidences of an old chorio-retinitis, with some involvement of the optic nerve. With + 13 D central vision was 20/40, but in the periphery both the form and colour-fields were almost obliterated. He had an inconsiderable defect in his right eye, the correction of which gave him 20/20 vision ; but here again the fields for form and colour were much contracted on the temporal side. In the periphery of the fundus of this eye there were evidences of choroidal disease, but the lens was perfectly clear. The aphakic left eye deviated outward, even when corrected with a convex lens. There was absolutely no history of injury or operation, and the cornea showed no cicatrix. He had never remembered having extreme pain or marked external evidence of inflammation in either eye.

Although Dr. Pyle classes this case in his fourth division, the evidence that there was absorption of the whole cataractous lens without rupture of the capsule is not absolutely conclusive.

Before such an explanation of the disappearance of a cataract can be definitely accepted, anatomical proof of its complete absence from the eye would be required. In the above case it is possible the lens became dislocated through a giving way of the suspensory ligament, without the receipt of any injury, and was located so far forwards as not to be visible ophthalmoscopically. The fact that no sign of the lens capsule was to be seen favours this view, as it is unlikely, even if the lens substance became absorbed, that its capsule would disappear.

A. v. Reuss has also written on the same subject in *Centralblatt für prakt. Augenheilk.*, February, 1900. He has met with two cases, both of which appear to belong to the third division in Dr. Pyle's classification. The first case, which was published in 1885, was that of a man who had a cataract extracted from his right eye in 1868, obtaining vision = 20/20. In 1874, when he was 60 years of age, he suffered from an acute iritis, and was then observed to have a hypermature cataract in the left eye ; but in 1876 the cataract had disappeared, except for a small sharply-defined nucleus about 3 mm. in diameter, lying at the level of the lower edge of the pupil. Above the pupil was quite black ; V = 20/50 and Jaeger 4, with + 5 and + 10 respectively. In the operated eye there were a few vitreous opacities, and a small patch of choroidites at the macula. The second case is that of a man, aged 75, whose left eye had undergone extraction for cataract in 1884 ; good sight had been obtained, but it had ultimately failed. The following year he had an attack of glaucoma in the right eye, which had yielded to poultices. He had a similar illness in 1898. About four months before Reuss wrote he began to find the vision in the right (unoperated) eye improving, and from p.l. it rose to 6/9 with + 12, and Jaeger 3 with + 16. The anterior chamber was deep, the iris tremulous, the pupil black ; there was distinct cupping of the disc, tension was normal, and the field of vision intact ; close to the lower margin of the pupil a very fine transparent membrane could be faintly seen with a few white spots on it, but nothing that one would call transparent capsule. Below this a small dark body could be seen, which was probably the shrunken nucleus. Although the patient admitted that on one occasion he had fallen and struck the back of his head, there was no real ground for supposing that the capsule had been ruptured ; it appeared to be a genuine case of absorption within the intact capsule.—*The Practitioner, November*, 1900.

112.—NUCLEAR CATARACT.

By G. E. DE SCHWEINITZ, A.M., M.D.,

Professor of Ophthalmology, Jefferson Medical College Hospital.

[From Dr. de Schweinitz's lecture :]

You are aware that opacities in the crystalline lens not only begin equatorially, that is, at the edge of the lens, but also centrally, that is, at or around the nucleus of the lens. In this second variety, or so-called nuclear cataract, the nucleus becomes hazy, and the surrounding tissue cloudy. This cloudiness remains the most opaque portion of the cataract, which later may gradually spread to the cortex until the entire lenticular body loses its transparency, or, as we are wont to say, the cataract is ripe. Very frequently these so-called nuclear cataracts remain for long periods of time unchanged—that is to say, the central opacity does not progress, and the surrounding cortex remains unaffected ; in fact, it is clear enough to perfectly permit the rays of light to pass. The patient, however, is unable to obtain clear images of external objects because the iris covers the clear portion of the lens, the pupilary space being occupied by the cloudy part. If the opacity has not progressed far enough to render the extraction of an unripe cataract safe, or if the patient has not reached that age when we may disregard the ordinary indications of maturity and extract the lens, even though a portion of it is still clear, we are compelled to search for some means to relieve the sufferer from a state of semi-blindness.

The first treatment that suggests itself in this type of incipient cataract, especially when the pupil is small, directly occupied by the opacity, and glasses cease to raise the visual acuity, is mydriasis. Often dilatation of the pupil will permit the patient to see through a peripheral portion of the crystalline lens, and produce marked improvement in vision. If such a result follows the instillation of a mydriatic, there should be a subsequent re-examination of the refractive error—that is to say, an examination of the refractive error while the pupil is dilated—and a glass may then be selected which will give the patient a surprising increase in visual acuity, and afford the greatest comfort. The mydriasis should be maintained preferably with a solution of homatropine, half a grain or a grain to the drachm, which is instilled morning and evening, and the proper correcting glass, moderately tinted, should be ordered for constant use.

It should be remembered, however, that sometimes this daily mydriasis, associated with the wearing of the correcting lens, is followed by rapid increase in the lenticular opacity. Indeed, the procedure may act very much as a preliminary iridectomy does. One sometimes finds under these circumstances that the cataract on the side on which mydriasis has been maintained will mature more rapidly than the cataract upon the opposite side, although this was originally far more advanced in its opacification. There are many illustrations of this, and therefore you should always warn the patient that this may be the ultimate outcome of your treatment, which, indeed, is a fortunate outcome, because if complete opacification takes place, the lens may be safely extracted, and a complete restoration of vision, such as occurs after removal of a cataract, secured. Naturally, when a practically stationary nuclear cataract directly occludes the pupilary space, and mydriasis indicates that the vision can be raised to double or triple that which the patient possesses when the pupil is of its natural size, an optical iridectomy, placed at the most advantageous position, is a perfectly proper surgical procedure, and one which is constantly employed. [A case, together with a description of the operation, is then given.]

If, after trial of mydriasis, both in the office and outside of the office or dispensary, the patient returns stating that the increased visual acuity is a comfort, optical iridectomy, followed by a suitable correction, is a very satisfactory procedure. It gives the patient a period of increased visual acuity, it renders the subsequent extraction of the lens easier, as before stated, provided one does not care to wait for maturity, and it often hastens maturity without the disadvantages of actually triturating the lens.—*The Therapeutic Gazette, September* 15, 1900.

113.—THE EARLY TREATMENT OF ACUTE AURAL DISEASE.

By Professor ROOSA.

In the *Post-Graduate* for June, 1900, the author expresses the belief that the principle at the basis of all treatment of acute aural disease is to quickly unload the congested blood-vessels of the ear. When a severe pain in the ear occurs—and by severe pain is meant pain that will not allow the patient to sleep during the ordinary sleeping hours, it will usually be found to depend upon the condition mentioned in this article. There are furuncles in the ear that pain excessively; there is also a form of otalgia dependent on decayed teeth, but in a very large proportion of cases a severe pain in the ear of idiopathic origin depends, as has just been mentioned, on acute catarrhal inflammation of the pharynx, the Eustachian tube, and tympanum. Objectively the symptoms may be very marked, and on the other hand, in the early hours they may not be. Subjectively the pain is scarcely ever wanting, and is of the most agonising character. There is usually a tender tragus, with a red osseous canal and a line or two of redness in the membrana tympani itself. There may or may not be a very sore throat.

Acute aural disease may occur in the course of tonsillitis or a simple coryza, or it may be a part of the symptoms of grippe, or it may be in the latter or middle stages of measles, or scarlatina, or even typhoid fever. In the last named disease, however, the pain is not apt to be so severe, although the inflammation may involve the deeper parts, the vestibule and the nerve. This statement is also true of mumps. Dr. Roosa is inclined to think that any inflammation of the tympanum arising in the course of a coryza or tonsillitis is more amenable to treatment than that occurring as a result of general disease such as scarlatina or measles. This statement influences the prognosis, but has nothing to do with the treatment.

When the diagnosis of acute inflammation of the tympanum and Eustachian tube, constituting with the mastoid the middle ear, is made, if it be within a few hours of its origin, we may generally hope to subdue it by the free use of hot water. For the sake of those not accustomed to treat aural disease, Dr. Roosa ventures to remark that this hot water should be used by the fountain syringe and not by piston syringes of any kind; the latter are simply useless. What is wanted is a continuous stream of very hot water, say of a temperature between 90° and 100° F., for some minutes. From one pint to one quart of water should be used each time, and the douching, or the irrigation, as it is now very much termed at the hospitals, should be repeated every fifteen minutes or every half-hour until the pain is subdued. The patients generally like this treatment, although there are exceptions. He thinks exceptions do not often occur in cases of true inflammation of the tympanum, but in those of the auditory canal. Furunculosis does not always tolerate hot water. If it be a very young subject, say under six years of age, this treatment will usually be adequate to subdue the inflammation, or at least the pain.

At this point comes his first contention with some of the modern otologists. If the hot water relieves the pain in an infant, even if it must be continued very often for two or three days, he would not incise the membrana tympani unless it bulged so excessively that a mere nick would be sufficient to give exit to well-defined pus. It is here particularly that paracentesis is not inconsiderable, and when the process has not gone on to suppuration we stand in much danger of making an infected cavity of the tympanum. In young children the drumhead usually ruptures spontaneously within a few hours, or the hot water subdues the pain thoroughly and the inflammation is abated. This spontaneous rupture is often much better than the surgeon's incision. There is no such haste, either in an infant or adult, as is now generally supposed for the performance of paracentesis in acute inflammation of the tympanum. Many a case has been converted into a serious one by an unnecessary incision of the drumhead, an incision which often involves also the bony wall of the canal or tympanum.

Dr. Roosa states that he is perfectly aware of the criticism which his opinions have received for this view that paracentesis is to be avoided rather than encouraged, and that a spontaneous rupture is better than a too early opening with a knife, but he is not at all convinced by anything that his critics have said. He is not in the habit of treating acute inflammations of the ear during the winter and spring. During the last winter he has treated an unusually large number in private practice only, and no cases of mastoid disease or of inflammation of the sinuses have as yet occurred, although he has not found it necessary to perform a paracentesis for several months. In only one case does he believe the process might have been shortened by a surgical opening, which he did not make, but of this he is not sure, and the patient made a thoroughly good recovery—that is to say, the membrana tympani was restored and the hearing became perfect. On the other hand, he continues to see cases where too early and utterly unnecessary paracenteses, in his judgment, have perpetuated the disease, and in some instances have done so much damage that a complete restoration of the ear and hearing power are not to be hoped for. He says that almost all the cases of mastoiditis that he has seen were not under his care during the early stages of the aural inflammation that caused them. He expects perfect recovery in a case promptly and thoroughly treated by hot water and leeches, without a paracentesis or a subsequent opening of the mastoid. If the hot water does not subdue the pain in the case of an adult in a very few hours, say four to six, the next step is to apply leeches; these, according to the old and still proper rule, should be put upon the tragus; very seldom are they required on the mastoid. When the disease has reached such a stage that the mastoid is red and tender, and perhaps swelled, a Wilde's incision is a much better evacuant than leeches, and he repeats that everything depends in catarrhal inflammation on getting the patient at an early stage. If hot water and leeches do not subdue the pain, it is time enough to think of opening the drumhead. It is very doubtful if that alone will at once subdue it if the leeches have not already done so. Even after the paracentesis it may be necessary to repeat the leeching. During all this treatment the patient should be kept in a warm room and in bed. This is effective treatment of itself. A gargle of very hot water should be frequently used, but opium will not often be necessary if the fountain syringe and the leech are thoroughly applied, and if the blood-letting, if necessary, be considerable. In cases of children not old enough to gargle, it is well to spray out their nostrils and swab out their throats with Dobell's solution, Seiler's solution, or salt and water. These solutions should be as warm as possible.

The subsequent progress of the case varies with the individual, the cause, and other circumstances. Great care should be exercised to keep the ear in an aseptic condition. This is better done with hot water that has been boiled and reduced to a toleration point in temperature than by any of the medicinal antiseptics, such as bichloride of mercury or boric acid. None of them are necessary. Sterilised hot water is ample. As the patient gets about the room, inflation by Politzer's method should be practised. There are no directions about the diet or the general management that would not occurr to every physician with any experience; but a young gentleman with a great belief in coal-tar drugs is a dangerous man in a room with an acute otitis. No medicine will be necessarily needed from the beginning to the end of this disease, and antipyretics and opium unnecessarily used will often do harm. Very fortunately for the patient an acute otitis is such a serious matter, involving a part so rich in sensitive nerves, that usually opium in any of its forms will scarcely disguise the pain. The old antiphlogistic methods must be adopted. As Roosa has said in the beginning, most of our cases of mastoid disease, cerebral abscesses, affections of the sinuses, are the result of neglected or improperly treated acute aural disease. He who will follow the treatment above indicated will not have any of them resulting in his cases, but he will have the felicity of seeing them perfectly restored. Very young infants waking in the night with earache may be often quieted by breathing frequently in the ear. A prominent surgeon in England once gave him almost public thanks in one of the crowded clinics in London for this suggestion, which is in his text-book, and which he said had been of much value in the care of his own infant.—*The Therapeutic Gazette*, *Sepember* 15, 1900.

114.—SIGMOID SINUS THROMBOSIS.

By JAMES F. M'KERNON, M.D.
New York.

[From Dr. M'Kernon's account of the symptoms :]

Otorrhœa.—The presence or history of a discharge from the auditory canal of the affected side.

Chills.—They are present in a large proportion of cases, and of the symptoms to be depended upon in aiding us to make a positive diagnosis of sinus thrombosis, the presence or history of a chill, followed by a sudden rise in the temperature, with a remission, and profuse sweating is, if present, one of the most positive signs. Many of the cases come under our observation after the thrombosis has already formed, and in such cases we fail to observe this most important and initial symptom, and in this way are misled as to the true conditions existing. There are cases of thrombosis, however, non-infective in character, giving us no history of a chill whatever.

Temperature.—This depends on the amount of septic material entering the general circulation. When there is a sudden elevation of the temperature, with the other symptoms usually present, a diagnosis is comparatively easy, but when, as often occurs, there is a gradual rise from normal to 101° or 102° F., and it remains more or less stationary, and there has been no chill, it becomes more difficult of diagnosis, and it is in these cases that the chilly feeling of the patient is one of our most valuable aids in arriving at a correct diagnosis. A complication which may very materially lower the temperature in sinus thrombosis is the presence of a collection of pus in the brain, and it should always be thought of in this connection when a low temperature exists.

Pulse.—In the cases of thrombosis, when there is a sudden and high elevation of temperature, there is a corresponding rapidity of the pulse rate, ranging between 110 and 160, and often more per minute, but when the cases of a low temperature range occur, the pulse is often less than 100 per minute, and in one of the cases here reported, complicated with an abscess of the cerebellum, it never became more rapid than 85 per minute. In my two cases of jugular resection, the pulse rate was rapid for several weeks after the operation, even though the temperature was normal.

Pain.—In most cases of thrombosis coming under our notice the degree of pain is greater than that present when only an ordinary mastoiditis exists, and in my own cases this was very noticeable, especially the pain referring to the side of the head and in the occipital region over the torcular.

Nausea and vomiting.—These symptoms are nearly always present to a greater or less degree during the course of a sinus thrombosis, and were present in all the cases here reported, beginning with a slight nausea, and increasing as the disease developed, until vomiting took place.

Respiration.—During the early stages of thrombosis the respirations are but little affected, but in the later stages they are more rapid, and in two of the cases here reported reached higher than 60 per minute.

Vertigo.—Usually present when the meninges are involved, it was not observed in any of my cases.

Consciousness.—This was diminished to a marked degree in all my cases operated upon except one, the third, and with this exception all the cases I have seen exhibited at some time or other during the course of the disease, this lack of normal cerebration. A good example of this would be the slow and hesitating manner with which the patient would attempt to reply to a question, showing this function was distinctly interfered with.

Intra ocular.—A neuro-retinitis is present in a certain number of cases.

Constipation.—In all the cases coming under my observation this symptom was present, and is one that I believe co-exists with the earlier stages of this disease. Of the local symptoms, the presence of œdema of the mastoid region, and œdema over and around the exit of the mastoid and occipital veins, the so-called Griesinger's symptom was present in five of the seven cases operated upon, and this symptom was present in the other cases of septic thrombosis of the sigmoid sinus seen recently. In all my cases there was a marked stiffness, and in two instances rigidity of the muscles of the neck on the affected side, and in all the cases I have observed this condition was present to a greater or less degree, so that I believe this symptom to be a more or less constant one. I have never been able to demonstrate a hard, cord-like swelling in the neck along the course of the internal jugular vein, though I have tried repeatedly before operation to do so. In two of my jugular cases the lymphatic glandular involvement, both superficial and deep, was very marked and was a valuable aid in diagnosis, though their involvement does not always indicate phlebitis of the veins, as in a Bezold perforation the lymphatic infection in this region may be a prominent feature, so their presence in this situation is by no means always secondary to jugular involvement. It is said that sinus phlebitis is a disease of adult life, but in the second case of this series we have it existing in a child three years of age. So I think it may be said this disease will occur, when favourable conditions for its development be present, whether in adult or child.—*The Laryngoscope*, *June*, 1900

115.—TUBERCULOSIS OF THE NASAL FOSSÆ.

[From Drs. M'Bride and Logan Turner's periscope :]

The existence of primary tuberculous disease of the nasal fossæ is now an established fact. In our remarks upon tuberculosis in this region we wish to exclude all reference to the subject of lupus, and draw attention mainly to some interesting facts in the pathology of tuberculosis of the nose other than lupus. A number of facts demonstrate that, in spite of the action of the nasal vibrissæ and cilia, and the phenomenon of intranasal phagocytosis, tubercle bacilli can enter these cavities, and there give rise to tuberculous lesions. The mucosa in many cases may be predisposed by traumatism or a pre-existing catarrhal condition. Infection may also doubtless be introduced into the nose by the finger of the patient. We find, further, that in a very large proportion of the patients affected with nasal tuberculosis, there is an absence of any sign of tubercle elsewhere in the body. We find, too, that post-mortem examination of the nasal chambers in subjects dying from pulmonary or other forms of tuberculosis, shows in a striking way how the nose may escape secondary infection.

At least two distinct forms of tubercle of the nasal fossa can be recognised—the so-called tuberculous tumour or tuberculoma and the tuberculous ulcer. Both these forms may coexist in the same patient. It is to the tumour variety of the disease that we wish to draw special attention at the present time. Two valuable papers have recently dealt with this subject at some length. Hasslauer, of Würzburg (*Arch. f. Laryngol.*, Berlin, 1900, Bd. x. Heft 1), in a long paper upon tumours of the nasal septum, devotes a section to tuberculous disease ; while in the newly-published volume of *Guy's Hosp. Rep.*, London, vol. liv., Francis J. Steward records six interesting cases which were met with at that hospital.

Both these authors tabulate very fully a large number of published cases. Steward's six cases, and ninety-four already published by others, since 1899, combine to make a total of one hundred, well worthy of detailed consideration. If in the first instance we analyse these six cases, recorded for the first time, it is found that five of the patients complained of nasal obstruction, while in the sixth there were no nose symptoms, the lesion being mainly confined to the left orbital cavity. This case, however, is included in the series, as it was found at the operation that the disease, which had commenced in the orbit, had invaded the lateral mass of the ethmoid bone. Objective examination disclosed in four the swelling or tumour so called while in the fifth both inferior turbinateds were enlarged, and showed lobulated masses attached to their inferior borders. These swellings were red in colour, firm in consistence, but bleeding somewhat readily when touched with the probe. The surfaces were ulcerated in one or two small areas. In three the growths were attached to the cartilaginous septum ; in one both inferior turbinateds were affected ; in the other the posterior end of the right inferior turbinated was enlarged by a distinct new growth. When this last case had originally presented itself, the naso-pharynx was found filled with a large swelling, which was at that time removed. In two of the septal cases perforation of the cartilaginous septum occurred, thus affording additional evidence of the fact that a perforating ulcer in this locality may be of tuberculous origin. In one of the cases, enlarged tuberculous glands in the neck developed, but in the remaining five there was no other evidence of this disease present. Microscopical examination of the tissue removed revealed in all of them giant cell systems, but only in one were tubercle bacilli found. The difficulty in finding bacilli in these cases has been experienced by most investigators. In Hasslauer's tables (*op. cit.*), containing eighty cases, tubercle bacilli were found in twenty ; in every case tabulated, however, there was present granulation tissue with tubercle nodules, containing giant and epithelioid cells. Treatment in Steward's cases consisted in curetting followed by application of lactic acid. Recurrence took place in two of them. Three of the patients were males and three females, while their respective ages were 17, 18, 34, 35, 36, and 54 years.

An analysis of the ninety-four cases tabulated by Steward, along with the six recorded by himself, brings out some interesting facts. As regards sex, fifty-nine were females and forty-one males, thus showing a greater proportion of the former. The majority of the cases occurred before 40, the greatest number being between 20 and 30 years of age. The youngest is reported as being 8 months old, while the oldest was 71 years. With respect to age, it resembles tuberculosis generally. In fifty-eight the nasal disease is stated to be of primary, in thirty-seven of secondary origin, while in five it was doubtful into which of the groups it could be placed. If the observations upon which these figures are based are correct, there is abundant evidence of the primary nature of nasal tuberculosis. In nearly all the cases the nasal septum was involved, thus demonstrating it to be the seat of election. In seventy cases the disease affected the septum alone ; and if we add to this those cases in which some other part of the nose, in addition to the septum, was also affected, we find that there was septal disease in eighty-nine out of the total of one hundred. The cartilaginous septum was very frequently perforated. The tuberculous condition showed itself as a non-ulcerated swelling in forty instances, while in twenty-seven there was ulceration without tumour formation, and in thirty-three there was either an ulcerated swelling or a swelling in one part of the nose and ulceration in another, thus making, in all, seventy-three cases in which an evident intranasal swelling was the prominent lesion. This may reach the size of a walnut, or even be larger, occluding one or both nostrils, and even projecting from the choanæ behind. Removal of the disease may be undertaken by the knife, the cold snare, curetting, and the application of lactic acid, and by the use of the cautery.—*Edinburgh Medical Journal*, *November*, 1900.

116.—CHRONIC EMPYEMA OF THE FRONTAL SINUS.

By HERBERT TILLEY, M.D. Lond., F.R.C.S. Eng.,
Surgeon to the Throat Hospital, Golden Square, &c.

[From Dr. Tilley's paper, based on 14 cases :]

Diagnosis.—A purulent discharge in the middle meatal region almost invariably indicates suppuration of one or more of the nasal accessory sinuses—antral, ethmoidal, or frontal. Headache and nasal obstruction are also symptoms common to empyema of each of these cavities. Hence in arriving at a differential diagnosis each sinus must be carefully examined in detail, and the surgeon will find that not rarely they are simultaneously diseased. Since the maxillary sinus is more frequently diseased than the ethmoidal or frontal, it is a good rule to regard every case presenting the characteristic symptoms as one of antral suppuration until examination proves this presumption to be wrong. Transillumination of the antrum by means of a small electric lamp held in the mouth will as a general rule afford strong presumptive evidence of the presence or absence of pus in the cavity. If any doubt exists, the sinus should be explored by a fine trocar and cannula (Lichtwitz's) passed into it from the nose. This little operation implies a preliminary cocainisation of the anterior half of the inferior meatus, and then passing the trocar and cannula between the anterior end of the inferior turbinal and the outer wall of the nose in a direction outwards and backwards until the inner antral wall is pierced. The trocar is removed, leaving the cannula in position, and on irrigation with warm saline or boric lotion absolute positive or negative evidence of suppuration is at once obtained. With cocaine, care, and a little dexterity the latter operation can be performed with ease, and almost painlessly ; while it is the only positive test which we possess in the diagnosis of antral suppuration. If such procedures give negative evidence, the source of the purulent discharge must be sought for in the ethmoidal or frontal sinuses. In chronic cases the latter cavities are almost always associated in disease. The clinical signs of ethmoidal suppuration are a purulent discharge in the middle meatus associated with a swollen polypoid or granular degeneration of the mucous membrane of the anterior ethmoidal region, amongst which a blunt probe easily detects areas of exposed bone or even loose spicules of the same in various stages of rarefying osteitis. To examine the frontal sinus the middle meatus should be cleansed with wool mops and attempt made to pass a suitably curved cannula into the higher sinus, and if successful its cavity may then be irrigated and the nature of the contents ascertained. The presence of the cannula in the sinus may be further assured by placing one end of an aural auscultation-tube on the floor of the sinus and the other in the surgeon's ear ; on injecting the lotion, mixed with a little air, the "bubbling" of the fluid can be distinctly heard within the sinus by the surgeon. Transillumination of the frontal sinus has been shown by Logan Turner to be of little practical value in diagnosis. In old-standing cases the passage of a cannula into the sinus may often be easily carried out, but when it is difficult or impossible it is well to remember that no force should be used in these localities. In some cases it will perhaps be necessary to remove the diseased ethmoidal cells and anterior portion of the middle turbinal before the continuance of suppuration demonstrates that the source of discharge is in the higher sinus. When the antrum and the frontal sinus both contain pus, it is a nice point to determine whether the first-named cavity acts as a receptacle or generator of pus. Of other diseases, supra-orbital neuralgia with slight swelling of the eyelid is most commonly confounded with frontal sinus empyema, but the absence of nasal symptoms would militate against the latter disease.

Treatment.—Whatever treatment is finally adopted in these cases, it is of paramount importance to ensure free drainage from the sinus by removal of all chronic inflammatory growths from the lower end of the fronto-nasal canal. For this purpose the anterior half or more of the middle turbinal, all polypi, granulations, and diseased ethmoidal cells should be removed by means of curette, snare, or forceps. I have no hesitation in saying that many of the failures in the radical operation have been due to the fact that the external operation has been undertaken before free drainage and immunity from re-infection of the sinus have been secured by this important preliminary intra-nasal treatment. When, however, this has been satisfactorily carried out the further treatment resolves itself into one of two measures : (1) Intra-nasal irrigation of the sinus ; and (2) external radical operation.

(1) *Intra-nasal irrigation.*—Little can be said in favour of this as a means of cure. In the first place it rarely succeeds, and what improvement has been noted in some case is probably due to the improved drainage provided by preliminary intra-nasal treatment. More than one surgeon has advocated boring into the sinus from the nose. It cannot be too emphatically stated that *this method is unjustifiable*, bristles with dangers, and has already been responsible for more than one death from meningitis following shortly after the performance of the operation.

(2) *External radical operation.*—This involves removal of more or less of the anterior bony wall of the sinus, of its diseased contents, and the provision of free drainage into the nose.—*The Lancet, July* 14, 1900.

AFFECTIONS OF THE SKIN, &c.

117.—THE PARASITIC ORIGIN OF ECZEMA.

By JAMES GALLOWAY, M.D.,
and
J. W. H. EYRE, M.D.,
From the Dermatological Department, Charing Cross Hospital, London.

[The following is taken from Drs. Galloway and Eyre's paper read before the Fourth Dermatological Department in Paris :]

The conclusions which seem to arise from our observations are : (1) Cocci producing whitish cultures are present in early and uncomplicated lesions of papulo-vesicular eczema. These cocci agree in most of their biological properties, but vary in certain particulars in different strains. The fact of absence or presence of oxygen in the atmosphere in which they grow seems to be one of the conditions producing these differences. They are all examples of the type staphylococcus pyogenes albus, and possess to a greater or less extent the well-known pathogenetic powers of this organism. It appears to us that there is no reason for separating these organisms into species, and still less reason for stating that one of these species is the specific cause of eczema.

(2) In all probability there are many factors at work in the production of any attack of eczema, and although we do not think there is evidence for the statement that this organism is the cause of the disease, we cannot help considering that this white coccus, and other cocci, such as the staphylococcus pyogenes aureus and the streptococcus pyogenes, which are so often present, especially in the later stages of the disease, must have very important influences on the development of the malady. These organisms do not grow in the injured skin in such large numbers without producing some effect, and from our knowledge of their influence in other situations, this effect can hardly be other than noxious. The local infectivity and chronicity of eczema, the ease with which purulent manifestations occur, should be in all probability ascribed to the presence of such bacteria. The knowledge of their presence and of the results they produce must be a powerful controlling influence in treatment.

(3) Other factors are concerned in the production of any attack of eczema, of which the following may be mentioned as especially efficient: First, certain organic lesions, especially such as produce circulatory stasis in the skin and consequent œdema and malnutrition of both cutis and epidermis. Second, the predisposition of the skin, usually recognised as the seborrhœic state, which permits the free growth on it of vegetable parasites, and especially of certain bacteria; this state is probably the most effective of all the conditions of susceptibility, or of lowered resistance in the causation of eczema. Third, the clinical evidence seems to be conclusive that there are certain conditions of imperfect metabolism which predispose to the onset of eczema, or at any rate to its recurrence, and of these the most common are those associated with improper digestion and assimilation of food, especially in the adult; want of exercise, the impure atmosphere in cities, &c., aggravate this condition, and increase the risk of recurrent attacks of eczema. Though the conditions mentioned have been stated by some observers to be without any effect in eczema, we are strongly of opinion from personal observation that the influences exerted by errors in the body metabolism are very important factors in its causation.—*British Journal of Dermatology*, *September*, 1900.

118.—THE TREATMENT OF GOUTY ECZEMA.

By GILBERT JOHN KING MARTYN, M.D. Cantab., B.C.,
Bath.

[From Dr. Martyn's paper, read before the British Medical Association Meeting, 1900 :]

As regards the clothing of a patient subject to attacks of eczema. The object to be attained is the production of a healthy action of the skin and the avoidance of extreme loss of heat with sudden chilling of the surface ; while, at the same time, irritation is kept at a minimum. As little change as possible should be made in the winter and summer clothing, and such change should be confined to the outer coverings. The underclothing must not be varied. Wool, if it can be borne, is good, but has many disadvantages. It is apt mechanically to irritate the skin. Washing and sweating produce in it a change of texture, rendering it felt-like. A more rational form of underclothing is undoubtedly cotton in the cellular woven form or in the form of Lahmann's cotton wool clothing. Such a clothing allows of a certain amount of ventilation of the skin, while at the same time it protects against undue chilling. I have repeatedly found that patients who cannot tolerate wool next to the skin wear cotton prepared in this way with comfort and benefit. One very essential point in the clothing is the protection of the extremities.

Climate in gouty eczema is of great importance. Of all localities the sea is the worst—as indeed it is in all forms of gout. The best climate is an equable, fairly bracing one, where the action of the skin will not be suddenly interfered with—such a climate, in short, as is difficult to be found in this country.

As regards the diet of a patient suffering from or liable to gouty eczema, suffice it to say that the diet must be a typical gouty diet with the minimum of proteid and starchy foods, and all those articles which produce an acid fermentation. There are, however, some forms of food which in eczema are particularly irritating, and which must be altogether withheld. First and foremost is alcohol. Then all forms of raw or cooked fruit containing much fermentable sugar or acid, especially strawberries, gooseberries, apples, lemons, and rhubarb. All stimulating foods should be avoided. The patient himself is the best judge of many articles of diet, as those injurious will never fail to make the burning and itching worse.

Next, as regards the value of internal remedies in gouty eczema. The text-book statement on this point usually is that those drugs which are used as gout specifics, such as colchicum, lithia, or piperazin, should be given. Personally, I have never seen them have the slightest influence in controlling or curing the eczema. Of real value are those drugs which benefit dyspepsia and increase the alkalinity of the blood, such as bismuth, the alkalies, and the bromides. Antimony will at times relieve the intense itching, but when the patient is kept awake and tortured by the eczema, when the temptation to scratch or rub is too strong to be resisted, and when there is no strong contra-indication, morphine should be injected hypodermically. By so doing we secure a peaceful night, and place a moist acute eczema under the most favourable conditions for healing. Arsenic is a difficult weapon to handle. Roughly speaking, the less irritation there is, and the more the eczema inclines to the dry and scaly type, the more will arsenic be found of value. The daily use of some mineral aperient water, such as Carlsbad water or Æsculap, taken in the morning when fasting, should never be omitted. More important than the internal medication is the local treatment of the eczema. For the very acute moist inflammatory type soothing lotions containing lead and opium should be constantly applied. As soon as the irritation begins to disappear, and the exudation lessens, I always substitute a dusting powder of carbonate of magnesia and Fuller's earth (*sic*). For the dry, irritable type, I find nothing excels the old-fashioned tar in the form of the liquor carbonis detergens, and it should be used in a very diluted form as an ointment, 10 minims of the liquor to an ounce of lanolin. The great area of the body which eczema so often occupies renders the employment of lotions and ointments difficult, and it is in these cases that the employment of baths is so valuable. The time-honoured tradition that all eczema is to be kept religiously from water is still fostered by many patients, and it is one of the hardest points to decide whether an eczema will be made better or worse by immersion in a bath. My experience teaches me that the amount of irritation is not the criterion of this point. Intensely itching eczema is frequently soothed and ultimately healed by such treatment. But when there is much redness or inflammation or exudation, baths only serve to make matters worse. A lime sulphated water, like the Bath water, is admirably adapted for cases of dry, irritating, scaly eczema. Too much care cannot be taken over the detail of the bath. This should never be given at a temperature exceeding 98°, and the usual hot pack after the bath must be omitted. The whole body must be very carefully dried and powdered after the bath, and the patient must go straight home after thoroughly cooling, so as to avoid any chill to the surface. In the more obdurate chronic types I order the addition to the Bath mineral water of sulphur water prepared by boiling sulphur and slaked lime. This is by far the best preparation of sulphur to use, as it closely resembles the natural sulphur springs. It is easily made, and will keep for a considerable time if it be kept cool and the air excluded.

One word as to the treatment of gouty eczema in the aged. For them severe treatment, such as baths and rigorous dieting, is out of the question, and yet they more especially require soothing treatment, or their strength soon gets exhausted by sleepless nights and days of torment. The treatment must, as a rule, be simply palliative. A generous diet, with a small amount of stimulant, is necessary when the patient gets worn out. Daily sponging with warm sulphur water is of the greatest value, and the free use of a dusting powder after drying. Sleep must be procured, if necessary, with bromides or nepenthe.

In the discussion the relationship between gout and eczema was called in question. Dr. Martyn replied, upholding the connection between the two affections. — *British Medical Journal*, *October* 13, 1900.

119.—TREATMENT OF PSORIASIS.

By Phineas S. Abraham, M.D. Dub., B.Sc. Lond.,
Dermatologist to the West London Hospital, &c.

[From Dr. Abraham's paper on "The Treatment of some Common Diseases of the Skin":]

Although I regard the constitutional element in psoriasis of even more etiological importance than in eczema, seeing as we do among its other features its tendency to occur in several members of the same family, and in gouty and rheumatic subjects, I have come to the conclusion that external treatment is, comparatively even, of much greater use in this disease. As with eczema, we ought to consider the state of the internal organs as well as any "diathesis" which may be indicated. I believe that the older practitioners were often right in giving alkalies and diuretics in these cases, but I have long become convinced that there is no particular drug administered internally which can fairly be regarded as a specific for psoriasis. As for arsenic, I consider that its vaunted specific efficacy in the treatment of this disease is little short of a medical myth. If, as perhaps happens occasionally, the patches disappear during a prolonged course of the drug, it has only been, according to my view, either after the patient has been made very ill, the nutrition of all the tissues having suffered—the skin with its patches of psoriasis along with the rest—or from the effect of concomitant measures. We frequently, indeed, see the efflorescence of psoriasis temporarily vanish during some other intermediate severe affection—gastritis, fevers, influenza—and I have even seen the spots go when a patient has meanwhile contracted syphilis.

Thyroid gland is another much vaunted drug which I have also discarded in the treatment of psoriasis. Some years ago I tried it extensively in the disease, and came to the conclusion that although in a few cases it undoubtedly caused the exfoliation and disappearance of the spots, in the majority it had no effect, and, indeed, frequently made the patients very ill without doing much good to the psoriasis. Even in those cases in which the results were good the rapidity of cure was by no means greater than with the ordinary external methods of treatment, nor was there any less tendency to recurrence. The external application of chrysarobin undoubtedly removes the efflorescence quicker than anything else. As an ointment, however, it has its drawbacks—ruining the patient's clothes, and producing severe and disagreeable erythema in tender parts and inflammation of the eyes if accidentally carried thereto. I use it now always in the form of a solution, to be rubbed in only on the patches which are situated on the extensor surfaces where the skin is less tender—*e.g.*, 40 grains of chrysarobin, 10 grains of salicylic acid, and one ounce of solution of gutta-percha (in chloroform); this forms a film which, when dry, does not stain the linen. As it peels off it is to be replaced every day or two — generally until an erythematous blush appears around. A more or less saturated solution of chrysarobin in benzine, rubbed into the patch, and then when dry painted over with collodion or the liquor gutta-perchæ is also very effective. For other parts of the body I usually order a strong tar or creolin ointment — *e.g.*, one drachm of creolin, 10 grains of ammoniated mercury, and an ounce of vaseline, often also with the addition of from 10 to 20 grains of salicylic acid. If possible, I make the patients soak themselves for a quarter of an hour or 20 minutes every night in a warm bath containing creolin and then thoroughly inunct the patches with the ointment.

For psoriasis of the scalp, the most efficacious treatment in my experience is an ointment containing a drachm of ammoniated mercury and three-and-a-half drachms each of soft soap and vaseline, to be well rubbed in every night. By these measures thoroughly carried out the most inveterate cases can, I believe, be "cured" in a few weeks; and I am not aware that the affection then shows more tendency to recur than after any other method of treatment. Indeed, I know several old patients who were so treated who have had no return of their psoriasis for many years.—*The Lancet*, *September* 22, 1900.

120.—HERPES ZOSTER.

By JOSEPH A. ARKWRIGHT, M.D.

[Dr. Arkwright relates two cases, with a generally distributed eruption, occurring in patients aged 23 and 60 years respectively :]

The two chief points of interest in the first case are :—(1) The sparing but distinct general eruption of spots resembling herpetic spots. This I have seen in two other cases, but I have only notes of one besides this case. (2) The distribution of the herpes, which certainly does not correspond to the area supplied by any one nerve, as is generally the case ; the area involved is supplied by parts of the following nerves according to the anatomy text-books : The clavicular and acromial branches of the supra-clavicular nerves, the circumflex nerve, and the internal cutaneous nerve. The herpes is partly situated on two of the areas which Dr. Head mapped out for herpes and referred visceral sensation, viz., his fourth cervical and fifth or perhaps sixth cervical areas, and these areas are very inadequately represented in this case of herpes.

The interesting points of the second case are :—(1) The general eruption, which is better marked than in the last case and of the same character. (2) The distribution of the herpes. This is very extensive ; the limits are : (*a*) The middle line of the nose, forehead, and vertex, almost as far back as the occipital bone, though the herpes passes over the middle line a little here and there all along. (*b*) A line from the inner canthus of right eye along the base of nose of right side, and then along upper lip near nostril to columella. (*c*) From inner canthus of eye along free margin of lower lip to external canthus. (*d*) A line from external angle of the eye dipping down a little towards malar prominence, and from there including most of temple backwards and upwards to meet the median limit at junction of occipital and parietal bones.

The eruption, therefore, occupies nearly the whole area supplied by the ophthalmic division of fifth nerve ; part of distribution of supra-maxillary on ala of nose and of lip, and about outer angle of eye ; also part of the area supplied by the auriculo-temporal on the temple and side of head. The areas named by Dr. Head which are included in the eruption are the vertical, rostral, fronto-nasal, mid-orbital, temporal, fronto-temporal, and also parts of the naso-labial and parietal areas. The distribution of herpes is often hard to account for by any rules ; it seems to have a tendency to exceed limits in various directions if the attack is a severe one. The fact that the eruption in a case of herpes usually occurs in the distribution of at least two (often more) spinal or cranial nerves is of itself sufficient to make it highly probable that the primary disorder is in the spinal cord or brain, and not in the nerves themselves. Herpes often maps out areas which coincide with, and very much resemble, Dr. Head's areas, but the limits of these areas are often exceeded in different directions; and on the theory of spinal origin this is not surprising, so long as the additional area of skin involved is represented in the cord in a region adjacent to the part mainly affected. The erratic vesicles which were scattered about the body in these cases are very difficult of explanation; similar cases have been described.—*St. Bartholomew's Hospital Journal*, *August*, 1900.

121.—THE TREATMENT OF ACUTE ACNE.

According to the *Journal des Praticiens* of May 5, 1900, inflammation of the sebaceous glands, as illustrated by red papules which are painful and indurated, often appears upon the face and forehead, and sometimes upon the thorax anteriorly and posteriorly. If these papules are persistent they frequently become indurated to such an extent as to produce hard masses in the skin, and then may go on to suppuration, culminating with the discharge of pus in the formation of cicatrices. The treatment depends usually upon the cause of the acne. Some cases of acne are dependent upon the skin being brought into contact with irritant substances like the oil of cade, chrysophanic acid, and pyrogallic acid. These eruptions will usually cease when the irritant application is no longer employed, and the condition of the skin may be improved by applying soothing poultices or hot compresses to hurry their disappearance.

Another form of acne is dependent upon the internal administration of the iodides or bromides. This form is, of course, best cured by stopping the causative drug. In the so-called spontaneous acne we sometimes find genito-urinary trouble or digestive disturbances. It is necessary for the successful treatment of these cases that a diagnosis as to the cause should be made. Where the digestion is found to be disordered, care should be taken to exclude from the diet list all foods which ferment, notably greasy substances, sauces, spices, and alcoholic drinks. Tea and coffee should also be avoided, as they are apt to produce indigestion, which is a cause. Benzonaphthol, salicylate of bismuth, irrigation of the colon, and the frequent administration of laxatives are advisable in these cases. In some obstinate cases the internal administration of brewers' yeast produces good results.

The local treatment is very important, and is both medical and surgical. The medical treatment consists in the cleansing of the skin, and in the application of antiseptic substances. Very hot water should be employed rather than tepid, and in obstinate cases, if the skin is not irritated, green soap should be employed to cleanse the skin before the patient goes to bed. The local treatment otherwise consists in the application of lotions, powders, and ointments. In some instances the hot-water applications are sufficient. In others, warm spirit of camphor may be used. In still others, solutions of boric acid or salicylate of sodium in the proportion of 1 to 100, or of ichthyol in the strength of five, ten, or fifteen per cent., may be applied. A useful lotion may be prescribed as follows :—Precipitated sulphur, ½ ounce ; spirit of camphor, 2½ drachms ; water, 8 ounces. Or, sublimate solution may be used : Corrosive sublimate, 30 grains ; alcohol, 1 pint ; water, 1 pint. This may be applied by wetting absorbent cotton and applying it to the face. In some instances it should be kept in contact with the face for a number of hours by means of a bandage, and afterwards washed off with pure hot water. In cases where there seems to be a good deal of irritation and inflammation associated with the eruption, zinc ointment is a useful application, or this can be modified by the following prescription :—Oxide of zinc, subnitrate of bismuth, of each 2 drachms ; powdered talc, 3 ounces. This may be dusted upon the face or mixed with lard and used as an ointment.

When the skin is indurated, and the inflammation is chronic, and a stimulating application is required, the following prescription may be used :—Precipitated sulphur, 1 drachm ; naphthol, 1 drachm ; resorcin, 1 drachm ; salicylic acid, 12 grains. This may be mixed with one or two ounces of vaselin, benzoated lard, lanolin, or cocoa butter. Surgical treatment of these cases consists in puncturing the pustules by the aid of an antiseptic needle, and pressing out their contents. In very obstinate cases it may be necessary to cauterise the suppurative spot by means of a fine galvanocautery point.—*The Therapeutic Gazette, September* 15, 1900.

122.—TUBERCULIDES.

[The following is taken from Dr. James Galloway's report in *The Practitioner* of the Fourth International Congress of Dermatology :]

Much attention was attracted by the discussion on the subject of the tuberculides. Dr. Boeck, of Christiania, opened the discussion. He emphasised the fact that only in a small number of cases was there found direct evidence of tuberculosis in the actual lesions ; that is to say, the presence of the tubercle bacillus had been only rarely demonstrated, and it had not been a common experience to find that inoculation of the tissues into susceptible animals had produced experimental tuberculosis. In addition, the eruptions gave an uncertain reaction to tuberculin. Dr. Boeck still felt inclined to consider that the eruptions were of toxic origin and due to the absorption of poisonous materials from other, possibly latent, foci of tuberculosis. From the point of view of diagnosis he considered that the symmetrical character of the eruptions was the best guide, and that the clinical evidence was increased by the fact that not infrequently the eruption occurred in those who were known to be affected by tuberculosis. If in other cases in which a tuberculous focus was not identified the cutaneous manifestations were identical, the conclusion, at any rate, was possible that the eruption was due to the same cause. He felt inclined to separate the tuberculides into two groups, those perifollicular and superficial, such as lichen scrofulosorum, the papulo-squamous tuberculide, &c. In this he admitted that the bacillus had been found in certain cases. The second group, usually more deeply situated and not perifollicular, would include, in his estimation, lupus erythematosus and the nodular tuberculides. In these the bacillus had not been found present, and their relationship to tuberculosis was not so well defined. Taking into consideration that in his judgment there were frequently to be seen transitions between such eruptions and true tuberculosis, he concluded that there was no purpose to be served by separating the tuberculides as a distinct group from true tuberculous lesions.

Dr. Colcott Fox, who presented a paper (*Brit. Journ. of Dermatology*, *Nov.*, 1900), the result of much experience and including detailed observations of recent cases, concerned himself mainly with the two types known as acne scrofulosorum and erythema induratum. These two types of disease may be taken as examples of the two groups mentioned by Dr. Boeck. Dr. Fox based his conclusions on the facts that the histological characters of these two eruptions closely resembled or were identical with that of the granuloma of tuberculosis, and that inoculation into guinea pigs frequently gave a positive reaction. In support of this latter statement he described experiments carried on under his own observation. In addition the clinical evidence was very strong that the eruptions frequently occurred in those the subject of tuberculosis. In Dr. Fox's opinion the two types of disease which he mentioned were of definitely tuberculous origin. The relationship of lupus erythematosus, on the other hand, to tuberculosis, which is distinctly claimed by Dr. Boeck, we imagine, in Dr. Fox's judgment is not nearly so well established.

Professor R Campana, of Rome, felt it impossible to distinguish between the tuberculides of toxinic origin and those produced by the actual growth of bacillus *in situ*. He admitted, however, that the chronic poisoning produced by tuberculosis might induce cutaneous eruptions which might even simulate true tuberculosis. He considered that the eruptions were the result of the enfeeblement of the tissues and consequent liability to external injuries.

Dr. Darier, of Paris, admitted the evidence of clinical relationship between true tuberculosis and the eruptions known as tuberculides. He went on to emphasise the point that in comparatively few cases had the actual tuberculous origin of these lesions been substantiated either by the discovery of the bacillus in the tissues or by the experimental method. In his opinion the clinical characters of the eruptions, the progress and duration of the individual lesions, and the small amount of positive evidence of the presence of the tubercle bacillus or of experimental infection which had actually been obtained, all pointed to the fact that the eruptions should not be regarded as of simple toxinic origin. He thought that it was more probable that these eruptions were produced by the presence of tubercle bacilli of low degrees of virulence, which arrived in the tissues by means of the blood-stream, but which, after doing a certain amount of damage, were destroyed by the vitality of the tissues.

The discussion serves to clear our minds to a very considerable extent as to the nature of these eruptions. We now know more clearly the exact nature of the lesions which have been described under different names as tuberculides during the last five years. As a result these lesions will be now investigated with greater certainty that observers are dealing with the same lesions. As to the theories of their cause, the two which held the field are :—(1) That they are of toxinic origin, and not due to the actual presence at the seat of eruption of the bacillus ; and (2) that they are produced by bacilli of low virulence, which fail to multiply rapidly or are easily destroyed by the tissues.

A very strong difference of opinion still obtains as to the etiological relationship of lupus erythematosus. Many of the French dermatologists especially consider that this disease is definitely a tuberculide, while others consider the evidence is insufficient to include the varieties of lupus erythematosus in this group, whether we consider that the tuberculides are of toxinic origin or produced by the actual growth of the bacillus.—*The Practitioner*, *November*, 1900.

123.—THE NATURE OF LUPUS ERYTHEMATOSUS.

By J. A. Fordyce, M.D.,
New York.

[From Dr. Fordyce's paper. Cases and other parts have been omitted.]

In lupus erythematosus we have a chronic inflammation of peculiar type, which, in the early stages of the affection, appears to be exclusively confined to the small vessels of the upper and middle regions of the derma. In its later stages the connective tissue undergoes a peculiar degeneration leading to a superficial but pronounced atrophy of the skin, the leading clinical features of the disease. The negative results which have followed attempts to find a local bacterial agent, as well as the failure of repeated culture and inoculation experiments, have led many clinical observers to the opinion that we have to do with a toxic agent which is carried by the blood current from some extra-cutaneous focus. The resemblance of lupus erythematosus to lupus vulgaris in its gross clinical features led many of the elder dermatologists to regard them as closely allied processes, if not actually identical. A more careful clinical as well as microscopical study of the two affections, however, showed them to differ in so many respects that they were, with few exceptions, looked upon as totally dissimilar diseases.

The fact that lupus erythematosus is at times associated with tuberculosis of the lymph nodes, the lungs, or other visceral tuberculosis, has prevented Hutchinson, Besnier, and others from accepting the view, until lately almost universally held in Germany, that they are in no respect related. Besnier and the majority of the French school uphold in the most emphatic manner the close relationship of the affection to the tuberculous process. Boeck, in an elaborate article, supports the same view. In his carefully-tabulated record of thirty-six cases, he finds pronounced symptoms of tuberculosis in two-thirds of them, and a family history of tuberculosis in half the remainder. It would not be possible, as he well states, to find so large a percentage of tuberculosis in an equal number of the adult population. Roth has collected from literature records of about 250 cases of lupus erythematosus, and in 185 of them there was more or less pronounced evidence of tuberculosis. As tuberculosis frequently exists in a latent form which is difficult or impossible to recognise, it is not improbable that the percentage of such cases in connection with lupus erythematosus may be even greater than the statistics of Boeck and Roth would seem to show.

In Boeck's opinion, the symmetrical outbreak of the disease is due to the action of the tubercle bacilli toxins on certain vasomotor nerve centres. The symmetery of the eruption is by no means a constant feature of the disease, and may be susceptible of other explanations. The absence of positive knowledge concerning the etiology of the affection under consideration has led to the most varied views as to its causation. It has been regarded as a tuberculosis; an inflammation produced by local causes in individuals of slight resisting power; an angioneurosis; a specific infectious disease caused by the growth of micro-organisms; a form of skin tuberculosis produced by a species of bacilli supposed to differ from those found in the lungs and in lupus vulgaris; a neuritic inflammation of the skin, the result of the growth of the tubercle bacilli in the nerve fibres in analogy with the skin changes caused by nerve leprosy.

As most of these theories have been shown to be untenable, an attempt is now being made by an increasing number of dermatologists to explain its frequent association with tuberculosis by the action of the toxins of the bacilli. We can only surmise, in view of our lack of positive knowledge, that certain cases of lupus erythematosus, when met with in conjunction with visceral or other tuberculosis, may be due to the action of the toxic products of the tubercle bacillus.

Some cases [including some by the author] are exceedingly suggestive, if they do not furnish the actual proof that an extra-cutaneous tuberculous focus may be the source of toxins capable of producing lupus erythematosus or closely allied eruptions. In addition to the cases briefly referred to in this paper, we have notes of three others in which the patients were affected with general tuberculosis. The frequent association of lupus erythematosus and tuberculosis, together with the occasional outbreak of the former disease as a generalised eruption with severe constitutional symptoms, favours the view of those who connect the two processes by means of the toxin of the bacilli. The characteristic atrophy of the connective tissue may be brought about by the necrotising principle of the germs, which Dr. de Schweinitz has shown to be a crystalline substance that is intensely active in minute quantities. Should it ever be possible to prove this hypothesis, which has a certain amount of clinical evidence to support it, a satisfactory explanation would be afforded of those rapidly fatal cates of the disease which have been described by Kaposi, Hardaway, Besnier, and others.—*Medical Record, July* 14, 1900.

124.—VACCINATION ERUPTIONS.

By Jacob Sobel, M.D.,
Acting District Physician and Dermatological Assistant at the Good Samaritan Dispensary, New York.

[The following is taken from Dr. Sobel's highly interesting paper based on 80 cases :]

We must not confound eruptions due to inoculation pure and simple with those produced by extraneous infection, impetigo, contagiosa, erysipelas, abscess, furunculosis, &c. I should reluctantly attribute any generalised eruption to vaccination, once the seat of inoculation has become thoroughly healed. However, as long as the local sore remains open, as long as there is a chance for absorption, generalised vaccinal rashes may occur. Under ordinary circumstances the site of vaccination is thoroughly healed in from three to five weeks, so that after this period eruptions are uncommon, although in some cases they may appear from forty to fifty-six days after the primary inoculation. The post-vaccinal lesions are characterised by their multiformity. Among the types of generalised eruptions the following were recorded :—Erythematous urticarial, papular, vesicular, pustular, erythema multiforme, morbilliform, bullous or pemphigoid, and scarlatiniform.

In presenting this subject an endeavour has been made to collect for statistical purposes the proportion of generalised eruptions in a given series of vaccinations. The records of Dr. Chas. W. Allen's Dermatological Clinic for four months of each of the following years, show that in 1897, 291 vaccinations were recorded with 34 generalised eruptions ; in 1898, 166 with 21, and in 1899, 126 with 25 ; roughly speaking, 14 per cent. (80 out of 583) of the children presented were subjects of generalised vaccinal eruptions. The report of the Dispensary shows that from May, 1897, to October, 1899, 4,160 children were vaccinated ; of these 583, or 14 per cent., presented complications or sequelæ, and 80, or about two per cent., generalised eruptions.

At this juncture a word on autoinoculation and hetero-inoculation may not be amiss. The most usual situation for autoinoculation is an inch or two above or below the original site of vaccination. It may occur to the right or to the left of the original sore, or, indeed, on any other portion of the body. In two instances "typical vaccinia was implanted upon a post-auricular eczema, and ran the same course as upon the arm." This condition is usually accidental, and is caused by the child scratching and conveying the virus to some other slightly-denuded portion.

The most common generalised eruption was found to be urticaria in its varying types, occurring from the fifth to the fifteenth day, usually on the ninth or tenth. Some instances showed typical wheals of various sizes, others papules, others papulo-vesicles, and others bullæ; in a few instances the smaller wheals had in their centre a minute vesicle, rendering differentiation from varicella necessary. This urticaria, while often generalised, was at times localised to the vaccinated arm, or at most a few lesions were scattered over the body. It was not uncommon to find the lesions of urticaria combined with contagious impetigo, the latter being due to secondary infection from scratching. Urticarial lesions occasionally occurred as early as three or four days after inoculation; these are instances of true reflex action similar to that produced by shellfish, strawberries, &c.

The morbilliform type, though not very frequent, occurred in several instances, usually ten to eleven days after vaccination. In these cases there were no prodromal symptoms, no coryza or conjunctivitis, and the temperature never rose above 100·5° F. *per rectum*. The eruption, while fairly typical of measles in appearance and distribution, was differentiated by the history of sudden onset, the early disappearance of the rash without desquamation (within 48 hours), and the absence of Koplik's phenomenon. In three instances I observed the appearance nine days after vaccination of an eruption similar to German measles or rötheln, but differentiation from rubella was not so easy. In fact, in the absence of any particular diagnostic sign, I was unable to satisfy myself as to the positive diagnosis, since in both types the onset is sudden, the fever slight, and the eruption disappears in 48 hours. If other children in the same family have been or become affected, a diagnosis of rubella should of course be made. The vesicular eruptions proved interesting as well as puzzling. They occurred, as a rule, eleven to fifteen days after vaccination. In some instances the trunk was mainly involved; in others the extremities seemed to bear the brunt of the outbreak; a very small number presented a vesiculation limited to the vaccinated arm. A few instances showed generalised vesiculation even to involvement of the oral mucous membrane. Some of the cases simulated chicken-pox. When examined carefully, however, it will be seen that these cases never have *all* the characteristics of varicella; the lesions do not come out in stages, they lack grouping in twos, threes, or fours, the mucous membrane of the mouth is usually not involved, and the vesicular contents are darker and not lactescent.

On the other hand, the fact must not be overlooked that varicella might occur during the course of vaccination, and confuse the diagnosis. Varicella may appear twelve to fourteen days after vaccination, just at the time when lesions simulating it are wont to occur. If attention is given to the grouping, the crops, the various stages of the lesions, the character of the vesicular contents, and the oral mucous membrane, no great difficulty will be experienced in reaching a proper diagnosis. In two extremely doubtful instances, I was able to demonstrate, two days later, the occurrence of chicken-pox in other members of the family. Generalised scarlatiniform eruptions were rather infrequent, only four instances being recorded. One of the children seemed very ill, with a temperature of 102·5° F., and an eruption involving the face and extending over the lips into the mouth ; in twenty-four hours it had entirely disappeared from the body, and, in greater part, from the face. This form of generalised eruption appears about ten to eleven days after vaccination, is unaccompanied by vomiting or pharyngeal inflammation, and subsides in from twenty-four to forty-eight hours without desquamation. Simple erythema or roseola vaccination rash was observed a number of times ; it is a mild form of congestion, disappearing in twenty-four hours.

Pustule-bullous lesions were several times entered on the records. One patient had a temperature of 103·5° F. ; another showed large bullæ on the soles of the feet, on the hands, and scattered vesico-pustules on the body. A thin case of bullous or pemphigoid vaccinia presented bullæ over the entire body, many of them being infected and impetigenous. Three distinct bullæ existed over the posterior surface of the left leg ; some had tense, others flabby walls, the contents in all being alkaline in reaction. The bullous form of vaccinia might be confounded with syphilis, from which it must be differentiated to a great extent by the history. As Allen says, "If it comes between the ninth and fifteenth day—usually tenth or twelfth—we naturally may exclude inoculation syphilis, which would produce such manifestations only after a lapse of almost as many weeks." The bullous syphilide is a disease of very early life (first six weeks), and is usually fatal.

Other cases suggested echthyma, with greenish blebs on an erythematous base. Erythema multiforme was recorded a number of times ; one of the cases was hemorrhagic, and differentiation from purpura was only rendered possible by the existence of other multiform lesions which faded away on pressure. A second instance presented ten days after vaccination a typical erythema exudativum annulare, mainly on the anterior surface of the chest, abdomen, and back.—*Medical News, August* 11, 1900.

Obstetrics and Gynæcology.

125.—A CASE OF HEPATIC TOXÆMIA DURING PREGNANCY.

By W. E. Fothergill, M.A., B.Sc., M.D.,
Assistant-Physician to the Clinical Hospital for Women and Children, Manchester, &c. ; and
J. W. Stenhouse, M.B., C.M., M.R.C.S.

[The authors record a case in a woman, aged 32 years. The chief symptoms were swelling of the legs, enlargement and tenderness of the liver, small quantity of urine, with albuminuria, &c. Premature labour was induced and the patient recovered. The following is taken from the authors' remarks :]

We record this case as an example of those auto-intoxications of pregnancy which have of late been grouped together under the name of "hepatic toxæmias" on account of the important, if not primary rôle in their causation which is thought to be played by the liver. We believe that in this case the organ primarily at fault was the kidney, and this view is strengthened by the fact that the adoption of a vegetarian diet, as suggested by a previous medical adviser, resulted in benefit to the patient's health. Under the strain imposed by pregnancy both kidneys and liver broke down under the task of excretion allotted to them, and had not the strain been relieved we have no doubt that the result must have been fatal. We do not suggest, however, that there would have been any eclamptic seizure ; indeed, there are two reasons for believing that the poison which was circulating in the blood in this case was not a convulsive poison. Firstly, we have observed that amongst pregnant albuminuric women those who are markedly œdematous are much less likely to have eclampsia than others. Secondly, the large conical bag of Champetier de Ribes remained in this patient's cervix for seven hours without setting up a single uterine contraction : a fact which shows that her nervous system was far from being in an irritable or even sensitive condition. We believe that had death occurred the liver would have been found to be seriously injured by hemorrhagic and necrotic changes, such as those which are found to a limited degree in all women who die of eclampsia, and which, when they affect the whole liver, form the lesion characteristic of "acute yellow atrophy."

Our knowledge of toxæmia in connection with pregnancy is as yet in a very vague and theoretical state, but the hypothesis that a number of the troubles of pregnancy are toxic in origin and can thus be studied together, is already of definite practical value. For its complete development a mass of observations is wanted, and these must be made by men who are engaged in general practice, since they are the only medical men who have sufficient opportunity of observing patients from the beginning to the end of pregnancy.

The more important manifestations of toxæmia during pregnancy are as follows :—

Alimentary system.—Constipation, pica, salivation, vomiting and nausea, jaundice, acute yellow atrophy of the liver. *Skin.*—Pruritus, herpes, bronzing, chloasma. *Renal system.* — The so-called "kidney of pregnancy" with albuminuria; also albumosuria and glycosuria. *Nervous system.* — Irritable temper, neuralgia, sleeplessness, peripheral neuritis, myelitis, bulbar paralysis, recurrent amblyopia, eclampsia, mania, melancholia.

Observation shows that the occurrence of one or other of these manifestations may be determined by various circumstances. Amongst these are heredity; a sedentary mode of life; previous maladies, more especially those affecting the kidneys and the liver; various intestinal troubles; and, lastly, the abuse of the corset not only during pregnancy but also during the whole of early womanhood. When a pregnant woman shows any of the minor symptoms of auto-intoxication her urine should be frequently examined, for the excretion of urea forms a good clinical index to the excretion of toxic substances. In normal pregnancy the toxicity of the blood serum is higher than usual, and the toxicity of the urine, like the excretion of urea, is low. If there is for a time an increased excretion of urea, and a correspondingly increased elimination of toxins in the urine, it is probable that the liver is not doing its work completely, and that poisons which it should arrest pass through it and are removed from the blood by the kidney, which thus does extra work. If it is now found that there is a sudden decrease in the excretion of urea, a similar decrease in the elimination of toxins may be inferred. This implies that the overworked kidney is failing and that waste products are passing through both liver and kidney and remaining in the blood. After this stage has been reached albumen appears in the urine, and one or other of the more acute forms of toxæmia may be expected to follow. When a pregnant woman shows symptoms of toxæmia, treatment should be used both to relieve the symptoms and in order to prevent the progress of the condition to a disastrous result. The diet should contain as little nitrogenous matter as possible, and in marked cases should consist of milk. The clothing should be warm, and the mere suspicion of compression of the abdominal viscera must be avoided. The renal system should be flushed by a copious supply of pure drinking water. Baths should be very frequent, and in severe cases the hot wet pack is invaluable. The bowels should be kept very active, calomel and salts being the best aperients. Enemata may be freely used, and copious irrigations of the large intestine may be made with great advantage. In the more marked cases rest in bed is demanded, and if this, combined with energetic treatment, does not secure improvement in a few days, the uterus should be emptied in a thoroughly scientific manner. There is no justification for allowing pregnancy to continue when a toxic state has been diagnosed, which may be fatal to mother and child, and which does not yield to careful eliminative treatment. —*Medical Chronicle, June*, 1900.

126.—THE MIDWIFERY OF THE LAST QUARTER OF A CENTURY.

In the first number of the *Deutsche Medecinische Wochenschrift* 1900, Professor Fritsch, of Bonn, reviews the progress made in gynæcology and obstetrics during the last 25 years. The article is written entirely from a German standpoint. [A part only of the article which deals with Midwifery is reproduced here :]

Midwifery.—Twenty-five years ago the attention of obstetricians was being directed chiefly to the mechanism of labour. In obstetric operations many advances have since been made, and our treatment of abortion, though no one ignores the danger of interference, has become more active. The benefits of antisepsis in Cæsarean section have been remarkable. Before it the most favourable statistics showed a mortality of 50 per cent., compared with the 5 per cent. now due to the operation in the hands of Leopold and others, and the indications are so enfranchised that the perforation of a living child is almost considered a crime. The burning question whether the uterus should be preserved or removed has, thanks to Saenger's energetic championship, been solved by the Porro operation being abandoned, in principle, in favour of the classical Cæsarean section.

Symphysiotomy is an example of rapid popularity and rapid downfall. On its resumption ten years ago it was recommended with such enthusiasm that clinicians on all sides were obliged as a matter of duty to give it a trial. Many allowed themselves to judge it too favourably, but, although at first it won far more praise than blame, the operation is now, after a few years only, abandoned. No definite field, no definite indication, could be set for its application, and this uncertainty was a greater bar to its performance than its technical difficulties, which are by no means insuperable. Far more important was Walcher's discovery of the advantage of the dependent position of the legs in cases of contracted pelvis. In connection with depressing the head into the inlet of the deformed pelvis, as taught by Peter Müller and Hofmeier, it is an advance which unfortunately has not yet been generally adopted in practice.

Nothing has been written by obstetricians during the last 25 years to alter materially our views upon eclampsia. The theory of the kidney of pregnancy, essentially due to Leyden, has been the most important work. Attempts to explain the complex syndromata of eclampsia have only created theories that have been soon abandoned, and efforts in therapeusis have only proved that all methods are inefficient. I have little doubt that the belauded narcotics have soothed many a woman into eternal rest who without them would have recovered from her child-ill. Pelvic measurement is still carried out by Litzmann's method, though Skutsch, developing Küstner's ideas, has constructed an instrument with which one can ascertain, and not merely as heretofore estimate, the exact length of the conjugata vera. To Bandl we owe some new ideas about rupture of the uterus and upon the old question of the internal mouth of the womb in pregnancy and labour, which in spite of much excellent work, especially that of Bayer, is not yet settled.

A great advance was made when Fehling discovered that osteomalacia could be cured by castration, and when Latzko exhibited at Vienna cases that he had treated successfully with phosphorised oil.

Puerperal fever.—Winckel's book was for decades the only modern work that attempted to discuss the diseases of childbed systematically. From it succeeding generations had got their knowledge, and in principle the question was solved. Puerperal fever was divested of specific attributes, and recognised as an accidental traumatic disease. The logical outcome was local treatment, including, as treatment always should, prophylactic, rational, and symptomatic measures; these were discussed and severally improved. In the game of precautionary rules and anti-parasitic prophylaxis every one overtrumped the other. The theory of puerperal diseases, in fact, went through all phases of modern treatment of wounds. But a calmer view was soon taken about these excessive measures. It was seen especially that overmuch fuss in prophylactic treatment did more harm than good. The theory of disinfection, even though not yet complete, certainly led to most excellent practical results in the lying-in wards. In 1875 equal care was given to subject and object, indeed the object—the woman in childbed—was taken special care of; to-day she is almost ignored. She was shaved, soaped, scrubbed, sluiced and syringed, while it was taken for granted that the physician's hands could be completely disinfected with dilute carbolic acid. Now we are fighting about how we are to clean our hands—a task many consider impossible—and little trouble is taken about the external genitals of the woman, which indeed are not so accessible to sterilising drugs as the hands of the obstetrician.

One view has fought its way to general acceptance: we all believe that absolute sterility is neither possible nor necessary, and that good results are not to be had by chemical or mechanical means, but depend on a number of different conditions. For a long time it seemed as if antiseptics guaranteed success and technical skill was a matter of no moment. This mistaken idea was gradually abandoned, and operative skill is now properly esteemed. Of those authors who, by pointing clearly to the good of our endeavours, contributed to our advance, Bumm combined in the happiest way practical experience with theoretical knowledge. Ahlfeld deserves no less credit, for though he stands somewhat apart in his theories about infection, he has discovered much that is important in the teaching of practical disinfection and believes chiefly in alcohol. He has also regenerated the treatment of the after-birth. Though we cannot agree with him altogether in his attack on Credé, he has induced us on consideration to adopt the more expectative treatment which he recommends, and which is certainly the proper method. Brennecker's endeavours to elevate the mental and social position of midwives and to improve the hygiene of childbed by the foundation of lying-in asylums, and Winckel's efforts to make education more profitable, should be mentioned. Students have to thank Winckel for the institution of intern appointments. In nearly all the clinics there are now a number of interns, who share in all the work and see all the practice. The introduction of courses of operative gynæcology upon the phantom is also due to him.

The enormous increase of literature is a pleasing sign of the widened interest in gynæcology and obstetrics. It is unfortunate that so few municipal hospitals have special departments for gynæcology. A surgeon no doubt may perform gynæcological operations, but to undertake gynæcological treatment one should have been a practical obstetrician and have learned to understand all the peculiarities of the female character. Every hospital of more than 100 beds should have a gynæcological department. Conservative treatment as well as operative should be encouraged, and we should not see so many poor women who under promise of permanent cure have submitted to some serious operation and, nevertheless, suffer just the same after as before it.—*From an unsigned article in the British Journal of Gynæcology, May*, 1900.

127.—MISTAKES IN DIAGNOSIS AND TREATMENT.

By WILLIAM GARDNER, M.D.,
Professor of Gynæcology in McGill University, Montreal, &c.

[From Dr. Gardner's instructive address, delivered before the Canadian Medical Association, Ottawa Meeting, 1900 :]

Perhaps no more common mistakes are made than in the diagnosis of pregnancy, and all will bear me out when I attempt to emphasise their importance. While history, symptoms, and the condition of the breasts are all important, the supreme value in the estimation of the various sources of evidence is to be placed on the bimanual palpation of the uterus. I am in the habit of impressing this on my students. If, with empty bladder and rectum, and everything else favourable in the position of the patient, you cannot easily define the uterine body, so distinctly firm in the nulliparous condition, then suspect pregnancy. It is thus soft in the condition of pregnancy, and comes nearly to the feel of the roof of the vagina and other structures in the pelvis. If the uterus can be defined, the value of the so-called Hegar's sign—the sudden increase of size above the junction of the body and the cervix—is very great. It is in early pregnancy that mistakes in diagnosis are most frequently made, but I have known not a few in the more advanced stages. Cases are not unknown of all the arrangements having been made for operation for ovariotomy, and the patient meanwhile being delivered of a full term child.

If the diagnosis of uterine pregnancy be difficult in certain cases, it is vastly more so in the case of extra-uterine pregnancy, whether early or advanced. I venture the assertion that there is no operator of large experience in pelvic surgery who has not at some time or other operated for tubal pregnancy and found something else, or has operated expecting something else and found ectopic gestation. I have to confess having made such mistakes more than once. There are many deviations from what may be called the symptom-complex of this grave condition. In the early stage of extra-uterine pregnancy the conditions most apt to be confounded with it are the various inflammatory conditions of the uterine appendages, cystic adherent ovaries, hydrosalpinx, &c. In the rarer instances of rupture of the gravid tube with speedy fatal hemorrhage (and the danger of this is much greater when the gestation is in the relatively indistensible and more vascular part of the tube near to the uterine end), the symptoms have in several instances given rise to the suspicion of death from poisoning or by violence. As Galliard Thomas pointed out in a paper written by him many years ago, in the majority of the cases of extra-uterine pregnancy reported, the patient is pregnant for the first time or for the first time after years of sterility, during which she has suffered from pelvic symptoms and from which she has partially or completely recovered, spontaneously or while under treatment. My own experience amply bears out these observations of Thomas and others.

The correct diagnosis of uterine fibroids, while usually easy, is sometimes most difficult, and the history of the subject is fraught with mistakes. I have more than once opened the abdomen for operation to remove a uterine fibroid to find that I had to deal with the much simpler condition of intraligamentous cyst. So tensely filled are these cysts sometimes, and in their process of growth so closely do they lie to the uterus, that by position and consistence they now and then closely simulate the common, solid tumour of the uterus. The diagnosis of uterine fibromyoma from intrapelvic cancer, usually ovarian, in its early stages is by no means always easy. One mistake of this kind occurring a good many years ago mortified me very much. The physical signs were such that my diagnosis was multiple fibroids. In a few weeks failure of flesh and strength and the appearance of peritoneal fluid aroused suspicions of malignant disease, which were confirmed by exploratory operation.

All ovariotomists and abdominal surgeons of much experience have been disappointed and saddened by the appearance of intrapelvic and abdominal cancer within a year or two after a smooth recovery from the operation for removal of an ovarian tumour, apparently quite innocent in its characters. Lawson Tait used to remark something to the effect that every ovarian tumour had in it the elements of malignancy. His remark was doubtless the outcome of the experience I have alluded to. It would be more correct to say that if the whole of every ovarian tumour were submitted to careful microscopic examination by a competent pathologist, many which appear benign would show malignant characters. This fact is a strong argument, if any were needed at the present day, for the prompt removal of every ovarian tumour as soon as possible after its discovery. In malignant tumour of no other organ is radical cure by operation so hopeful.

Nothing in the experience of the gynæcologist is so saddening as that of cancer of the uterus. In the vast majority of the cases when first seen the only verdict to be rendered to the anxious patient is "too late" to do anything but make the last months of life as little miserable as possible. In by far the larger number the woman does not seek advice from her ordinary medical attendant until her case is hopeless for radical cure. The neglect of uterine cancer is due more than anything else to the delusions so universal in the popular mind concerning so-called change of life—delusions which, I regret to say, are shared by a small though (I am pleased to say) diminishing section of the general profession. Such are the prevalent ideas that at the age of from forty to fifty women are subject to profuse and irregular discharges of blood, and that the essential symptoms of cancer are pelvic pain and fœtid leucorrhœa. The experienced gynæcologist knows that, save in a few exceptions, menopause is not attended with menorrhagia or metrorrhagia, except when some form of organic disease exists, and that such symptoms demand prompt pelvic examination. If this be true of women who have not yet attained menopause, it is vastly more true of those who have ceased to have discharges of any kind for months or years, and yet I have known a number of instances of women of fifty and over, one of sixty-five, in which the appearance of a bloody discharge was welcomed, and announced with pride to her friends by the woman as a return of the distinctive characteristic of womanhood—as a renewal of youth! In my experience the appearance of bloody discharge in a woman who has ceased to menstruate means malignant disease and nothing else in 95 per cent. of the cases. In the other five per cent. the source of the blood is that interesting form of vaginitis which the late Professor Hildebrandt of Königsberg proposed to call "vaginitis adhesiva ulcerosa." As regards the significance of pain and fœtid discharge, I wish to say with all the authority I may command as a consultant, that while invariably present in the advanced stages, they are almost as invariably absent in the early and manageable stages, and yet it has many times been replied to me when I had announced my diagnosis, "why the woman has had no pain or ill-smelling discharge."

If there is one early symptom of cancer more suggestive, even significant, I ought to say, of the early stage of cancer of the uterus, cervix or body, it is the appearance of a thin, serous, slightly turbid, sometimes pinkish at first, and for many weeks usually inodorous, discharge. This so-called "meat-water" discharge at any age ought at once to arouse suspicion in the mind of the practitioner consulted and lead him to insist on an examination with all the authority he can command. The reasons should be given if necessary, and if he is refused he should wash his hands promptly of all responsibility in the case.

Malignant disease of the body of the uterus is undoubtedly very rare as compared with similar disease of the cervix, but I have found that its frequency and the possibility of it are much underestimated by many practitioners. The symptoms in a given case have led to the suspicion of malignant disease, the patient has been examined, the cervix has been found smooth and healthy, and the uterine body normal in size and symmetrical. Then, too often, has it been concluded that there is no cause for alarm, and the fatal malady, which could only have been revealed by the dilator and curette, is allowed for a time to go on with its stealthy pace till other more prominent symptoms arise.—*Montreal Medical Journal*, *September*, 1900.

128.—PLACENTA PRÆVIA.

[The following is taken from Dr. T. G. Stevens's periscope in *Treatment*:]

The treatment of placenta prævia.—This paper, by J. B. de Lee (*The Clinical Review*, August, 1900), sums up the present state of practice as regards this most important complication of pregnancy. Although the mortality for the infant is variously stated at from 20 to 30 per cent., and the maternal mortality at from 5 to 30 per cent., the author states that, with proper treatment, the maternal mortality ought to be nil, and with modern methods more children ought to be saved. Definite methods of treatment can be laid down in nearly every case of placenta prævia, and there can be no doubt that there can in this complication of pregnancy be no expectant plan of treatment. Various authors have stated, among them Ramsbotham and Parvin, that unless the hemorrhage is severe, a waiting policy should be adopted. On the other hand, Jaggard, Hirst, Davies, and Jewitt all counsel immediate interference if the child is viable; and the author would go a step further, and advises that as a rule it is best to terminate the pregnancy in all cases at once. The ordinary method which gives the best results of inducing labour in placenta prævia is as follows: to puncture the membranes by the side of the placenta (if possible), and then to introduce a large colpeurynter or hydrostatic bag *above the placenta* in the amniotic cavity. (The author recommends Carl Braun's colpeurynter. Here in England we generally use the large bag of Champetier de Ribes.) If the cervix is too small to admit the bag, it may be dilated with Hegar's dilators, or the Goodell two-bladed dilator. Pains usually come on in from 20 to 30 minutes, and after a variable time the bag is expelled (one and a half to eight and a half hours.) Labour may then be terminated by leaving to nature, forceps or version, as the case demands.

Treatment of placenta prævia after labour has begun.—The objects to gain are : (1) To stop the hemorrhage ; (2) to empty the uterus ; (3) to secure contraction and retraction of the uterus ; (4) to complete the hæmostasis. Practically the state of the cervix and the amount of the hemorrhage indicates the method of treatment. (1) If the hemorrhage is slight, and the cervix dilating satisfactorily, one may wait ; but if the hemorrhage increases the membranes must be ruptured. This allows retraction of the placenta, and the head coming down helps to stop the hemorrhage by pressure. If the cervix is completely dilated, deliver at once by forceps, or version if the breech presents ; if not completely dilated, the case comes into the second class. (2) In the usual condition, where the hemorrhage is profuse, the cervix will admit, as a rule, two fingers, and the uterine contractions are inefficient. The only methods here of real use are :—Braxton Hicks' version by combined manipulation, bringing down a foot, or the use of the large bag before mentioned. If the version be decided on, it must be remembered that slow delivery gives the mother and the child the best chance. The half breech brought down into the cervix effectually stops hemorrhage, and brings on uterine contractions, and a slow delivery of a breech presentation is essential to avoid such complications as extension of the arms and head, not to speak of cervical lacerations. Lacerations of the cervix in placenta prævia are apt to give alarming hemorrhage, because they may go through the placental site and open a large vessel. The great objection to this version method is the high infant mortality. The points to bear in mind in the use of the colpeurynter (or Champetier de Ribes' bag) are : first, to see that the bag is sterile ; next, to know how much fluid must be injected into it to completely fill it ; and, lastly, to take care that it is introduced fairly into the amniotic cavity above the placenta. If it should be placed between the placenta and the uterus, of course the placenta will tend to be more and more separated, and the child's death will be assured. When the bag is put in and distended, a certain amount of traction may be kept up on it. This stimulates the uterus to contract, and stops the hemorrhage by pressing on the bleeding vessels. The traction may be applied by means of an elastic cord fixed to the bag and the end of the bed, or preferably by manual traction. The bag will be expelled as soon as the cervix is fully dilated. If the child is alive, and there is no hemorrhage, and the vertex presents, the case may now be left to nature. There should be no hurry to deliver in this condition, even though the child seems to be dying (as shown by the heart sounds). A hasty delivery is too dangerous for the mother, sudden emptying of the uterus during collapse being often quite sufficient to turn the scale against the mother. If hemorrhage still continues, it is better to pull down the head with forceps, or the breech by podalic version, and so tamponade the cervix. (3) Hemorrhage in the fourth, fifth, or sixth month of pregnancy should always suggest the diagnosis of placenta prævia, even if the cervix is closed, and the finger cannot feel the placenta. So even in these cases the author recommends emptying the uterus at once. Even if the cervix is closed, it has never occurred to the writer that he could not by some means introduce a Barnes' bag, and then follow it by the larger colpeurynter. (4) The third stage of labour has to be conducted with great care. Lacerations have to be guarded against for reasons given above. The low situation of the placenta often conduces to some infection during pregnancy, and hence to morbid adhesion of the placenta and membranes. The author advises that there should be no delay in removal of the placenta after delivery. If the usual means are not at once successful, he recommends insertion of the hand at once and manual extraction. (This applies more particularly to cases in which there is some post-partum hemorrhage due to adhesion. We do not think the author would counsel haste where there was no hemorrhage going on). After removal of the placenta, there may be real post-partum hemorrhage from the placental site or lacerations. If hot-water injection does not at once stop the hemorrhage, it is better to waste no valuable time, but to at once pack the whole uterus and vagina with gauze. The gauze must be sterile. The author uses plain gauze wrung out of ½ per cent. lysol; five to seven yards, half a yard wide, are necessary. For the treatment of the anæmia directly after delivery, it is best to give large quantities of saline solution hypodermically, not per rectum, because it interferes with the local treatment. The strictest asepsis must be maintained throughout the delivery, for patients with the placental site low down, and exhausted by loss of blood, are even more readily infected than ordinary cases.—*Treatment*, *October*, 1900.

129.—TREATMENT OF POST-PARTUM HEMORRHAGE.

By John W. Byers, M.A., M.D.,
Professor of Midwifery, Queen's College, Belfast, &c.

[From Dr. Byers' paper, read before the British Medical Association, 1900 :]

It is good practice in all confinement cases to see, as the second stage of labour is advancing, that everything is conveniently ready, such as hot water, the douche, with double-current intra-uterine tube (Bozeman's or Budin's), &c. The accoucheur, fortified in this way, acts with much greater self-reliance should hemorrhage suddenly set in. Supposing the placenta and membranes have all come away and that then suddenly bleeding sets in with a relaxed inert uterus, what should be our line of practice?

(1) I think the first measure to be adopted is external uterine massage. By this means the uterus is stimulated to contraction, clots are expelled, and often this method is sufficient of itself to arrest the hemorrhage.

(2) Should this plan fail then I recommend the use of hot water. A double-current instrument (Budin's or Bozeman's) should be employed, and it is a great advantage at the same time to draw down the uterus by catching the anterior lip of the cervix with a vulsellum forceps. Certain precautions in the use of hot water are necessary. (*a*) Temperature. In maternities a bath thermometer is of use as indicating the proper temperature (118° F.) to be used, but in private practice the best rule is to use the water at that temperature which the hand immersed in it will bear. (*b*) Amount. The hot water should be used in large quantities. (*c*) The intra-uterine tube should be passed up to the fundus so that the whole inner surface of the cavity is bathed. (*d*) Antiseptic. Some use a little creolin in the hot water. I prefer salt—a teaspoonful to the pint. Never use any corrosive in the hot water, the objection to it being that, owing to the open state of the uterine vessels, absorption takes place rapidly with the risk (I have seen its occurrence) of mercurialism. Cold water should not be employed. It is not sterile and its low temperature has a prejudicial effect on the anæmia, while the hot water is distinctly stimulating.

(3) The introduction of the hand into the uterus. As there is no operation I believe so dangerous to a parturient woman as the introduction of the hand of her attendant (owing to the admitted difficulty of rendering it aseptic) into the uterus, this practice should only be done when the indications are clear.

If hemorrhage sets in before the placenta comes away, and if, owing to adhesions, external abdominal massage fails to expel it, then the hand must be introduced to separate and withdraw the placenta. Again, if a lobule of placenta or a piece of outlying after-birth is retained (I have mentioned the signs indicating both of these conditions) the hand should be introduced to remove the retained parts, which prevent by their presence the uterus contracting on its open vessels. After the hand has been withdrawn the uterus should be carefully douched with a hot creolin lotion. In the absence of the clear indications I have mentioned, the use of the hand inside the uterus is, I believe, bad practice. No doubt it stimulates the uterus to contract, but hot water will do this equally well, and there is not the same risk of septic poisoning as when the hand is introduced.

(4) Should the preceding measures have failed then we may try bimanual compression, but my own experience of it is that it is very fatiguing to the accoucheur and trying to the patient; and I prefer—

(5) Gauze plugging of the uterus. A word about its technique. You may, as the text-books teach, need three lengths of four or five yards, each from three to four inches broad, but I have been struck with the fact that when the uterus is drawn down with the vulsellum in many cases very much less of the gauze is needed. The plan I can recommend from personal experience is to carry in your obstetric bag one of Dührssen's sealed tins of sterilised iodoform gauze. This tin takes up little room, it can be opened quickly (as a tin of Brand's essence), and it contains sufficient gauze to plug the uterine cavity. I get it through Fannin, the instrument maker in Belfast, from Berlin. Great care should be taken to plug the uterus tightly up to the fundus. The hold given by the vulsellum forceps allows sufficient counter-pressure when you are packing the cavity of the uterus. The gauze acts by stimulating the uterine muscle to contract, but also by insinuating itself into the mouths of the bleeding vessels and so directly compressing them.

(6) Drawing downwards the uterus. Should we meet a case where, notwithstanding the gauze packing, hemorrhage continues, I think we should first (on the assumption that our previous technique has been at fault) remove the gauze, wash out the uterine cavity with a creolin douche, and re-apply —packing very firmly—the gauze. If, notwithstanding, the hemorrhage again returns, I would strongly recommend the firm drawing down as far as possible of the uterus with tenaculum forceps passed through the lips of the cervix. This method acts, I think, by kinking and compressing the uterine

arteries, as is seen often in the operation of vaginal hysterectomy. In such circumstances Professor Schauta, of Vienna, thinks atheromatous vessels are present in the placental area. He advises laparotomy in hospital practice, or in private practice eversion of the uterus into the vagina by pressure on the fundus, so that the bleeding vessels may be caught, or an india-rubber ring (as recommended by Kocks) or a gauze bandage may be fastened round the everted uterus so as to cut off the circulation. The compression should not be maintained for more than six hours to avoid gangrene, and Professor Schauta prefers that the vessels should be caught directly rather than that pressure should be applied to the whole uterus. When the bleeding is stopped the uterus is to be re-inverted. I have no personal experience of this method : I simply mention it on the authority of the distinguished Viennese obstetrician.

(7) Injection of iron. I have not used the injection of perchloride of iron solution for the past five years. It is a remedy not without danger. It causes a certain amount of superficial injury of the uterine wall, which forms a suitable nidus for the growth of germs ; and if it fails plugging cannot be done owing to the effect that the iron has on the tissues. I have been told that gauze plugging has replaced the use of iron in bad cases of post-partum hemorrhage in the Rotunda Maternity Hospital.

The treatment which I have mentioned applies to cases of uterine inertia giving rise to hemorrhage after the delivery of the placenta. Should bleeding set in before the after-birth is delivered pressure should be at once used to bring it away, and if this fails the hand should be introduced to separate and withdraw the placenta. Should a portion of the placenta remain or a piece of membrane, or should there be the suspicion of a uterine tumour, the hand must also be introduced for diagnosis and treatment. In all such cases the uterus should afterwards be most carefully douched out with a hot creolin lotion.—*The Lancet*, *September* 15, 1900.

130.—NOTIFICATION OF PUERPERAL FEVER.

By D. Berry Hart, M.D.,

Physician, Royal Maternity Hospital, Edinburgh, &c.

[From Dr. Hart's paper, read before the British Medical Association, 1900 :]

We must, outside special hospitals, rely for our diagnosis, as a rule, on the clinical conditions, and we can classify the notifiable cases under three varieties : (1) The acute rapid form due to a large amount of poison and usually associated either with severe laceration or ruptures of the genital tract, or with the retention of much placental *débris* as in greatly adherent placenta or membranes ; (2) the ordinary lymphatic form ; and (3) the rarer venous form.

In the first variety the severity of the labour will have put the attendant on his guard, and the rapid pulse, relatively low temperature, the early tympanites and irregular rashes, with the intoxicated or poisoned look of the patient, will make it evident that notification must be speedy to antedate the death certificate. Cases of this variety are comparatively rare, but I have seen practitioners not greatly alarmed as the temperature was not much up, and they underrated the importance of the rapid pulse. The second form is the ordinary one. The occurrence of elevation of pulse and temperature within the first five days, the persistence of this rise, the occurrence of rigors, the onset of peritonitic, pericardial, or endocardial symptoms render the diagnosis easy. The case at first may seem, or actually be, one of Duncan's sapræmia or wound intoxication of German observers. This will usually yield to local antiseptic remedies, and the patient's condition will improve under treatment ; but if the sapræmia be intense it may kill. Then, again, the mischief may become localised and end as a cellulitis, for instance, with or without suppuration. The lateral fixation of the uterus and the after-exudation will make the case clear as a non-notifiable one. The third variety—the venous form—is the one that taxes the practitioner's skill in diagnosis most. We have a sudden rigor and a high temperature, a pulse not so high relatively, and an absence at first of local lesions. There is here an infection of some clot in the uterine wall with streptococci, and this causes the rigors and raises the temperature and pulse, without at first giving much, if any, local indication. There is not the frank invasion of the patient's system along the lymphatic route, with its evident local peritonitic disturbance, but a passage of the mischief insidiously through a blood channel. Soon, however, the special pyæmic affections of joints, lung, or brain come on, and render the nature of the case clear. Such cases are more tedious and more trying, and lead the practitioner further astray in his diagnosis than the lymphatic form. Typhoid fever, drain poison, tuberculosis, or scarlet fever may occur to him as causes of the condition, and the attendant is often, quite rightly, hard to satisfy as to the non-existence of these.

As to drain poison, so ably advocated by Dr. Playfair as a cause of puerperal pyrexia in certain cases, I have so far only reached the Scotch verdict of "Not proven." The rashes associated with septicæmia have undoubtedly shaken somewhat the position of those who believe in puerperal scarlatina, but by no means exclude the possibility of this condition. The source of scarlet fever infection should be very evident, however, before one commits oneself to its diagnosis. Cases, therefore, should be notified as puerperal fever where one has the clinical features of a general or threatened general septicæmia. Sapræmic conditions, localised septic pelvic conditions, need not be notified, and all care must be taken not to lay the blame on typhoid or scarlatina when sepsis is the real cause.

Two conditions caused by special organisms require a passing word, as they are, strictly speaking, not notifiable, although one often is so reported. These are gonorrhœal cases due to the gonococcus and puerperal tetanus due to the tetanus bacillus. Gonorrhœal puerperal infection is by no means rare. It may come on later in the puerperium, but I have seen three cases where the gonorrhœa had caused Bartholinian abscess late in pregnancy, with the result of speedy general peritonitis in the puerperium. The history of these cases and the presence of the gonococci in the uterine discharge make such cases clear. Tetanus is very rare, but the cases at Prague recorded by v. Rosthorn and others are of great interest.

No medical man in charge of obstetric cases finds it agreeable to notify puerperal septicæmia. But that these cases are notified conscientiously I have no doubt, as, in looking over the statistics of large towns like Sheffield, London, and Leeds, one is struck with the fact that the notified cases exceed the actual deaths by a considerable number. Thus, in Sheffield from 1890 to 1898, 379 cases were notified, with 207 deaths. In Leeds, whose statistics I saw through the kindness of Dr. Spottiswoode Cameron, the same holds good. There seems to me no evidence of unwillingness to notify, and little, if any, omission to do so when necessary. As compared with zymotic cases, those of puerperal septicæmia place on the practitioner's shoulders the onus in certain instances of actually causing the condition. Our improved knowledge of antisepsis, however, and the greater care exercised in the management of labour, should eliminate this. Teachers of obstetrics should enforce on the student the great importance of accurate knowledge of the management of normal cases, and especially of the third stage of labour. The distressing case in practice is that of septicæmia after a normal labour. Notification should, in my opinion, be a privileged communication. There is no need for the medical officer of health to visit the house where it has occurred, unless the case be a midwife's one. If the medical officer thinks further information necessary, he will, of course, obtain it from the medical attendant, and it may be his duty to advise the practitioner who has repeated septicæmia cases to cease midwifery practice for a little while, and to make sure he is not, by some error in practice, actually causing it. I have no doubt in such cases the practitioner will find the health officer a loyal friend.

The advantages of notification seem to me very obvious. In the first place we get statistical information as to the frequency of this condition, and as to whether it is diminishing or increasing. Unfortunately, it does not seem to be diminishing as it should, as Boxall and Cullingworth's work has shown. Some factors causing this condition may be discovered as the result of statistical research. Notification of cases will certainly help in prevention by putting the medical officer on the track of careless midwives and nurses, and in this way do marked service. I am doubtful if we can expect much more from it. The municipality, however, which enforces notification of puerperal septicæmia must provide hospital accommodation for the reception of suitable cases. This seems to me a matter of first importance, and one that we should strongly advocate. Such cases require special local treatment, careful nursing, and this in many instances cannot be obtained. The medical man may not be able in all cases to devote himself to their care with due regard to his other patients; the midwife is not competent to treat such a condition as puerperal fever, and unless we have special hospitals or wards in municipal hospitals the unfortunate patient must suffer, and we all know what a mother's death means to a household. In a special hospital skilled medical and surgical treatment would be available, there would be thorough nursing, and the chances of the patient's recovery would be increased. I am not optimistic in regard to treatment in bad cases: many of these are very hopeless; but I am certain that investigation of such could be carried out satisfactorily only in a hospital equipped with a laboratory and all necessary apparatus for investigating the causes of this terrible disease. I am strongly in favour, therefore, of notification, provided that it does not begin and end in mere registration. If the municipalities are wise, they will see that the medical man gets aid in such cases—skilled nursing where necessary, removal to a properly equipped hospital when desired, supervision of nurses and midwives when solely associated with the management of the case, and supervision of their proper disinfection before they take up fresh work. I am certain that this would prove a step in the right direction, and enable us to see more clearly into all the factors—and they are many—which cause this dreadful disease.—*British Medical Journal*, *September* 15, 1900.

131.—THE TREATMENT OF CANCER COMPLICATING PREGNANCY.

By BROOKS H. WELLS, M.D., New York,
Adjunct Professor of Gynæcology at the New York Polyclinic.

[The following is taken from Dr. Wells' paper upon the "Treatment of Tumours Complicating Pregnancy":]

In the early stages of cancer impregnation frequently occurs, and, while abortion is frequent, two-thirds of the cases go on toward term. The cancer, under the stimulus of the increased circulation and succulence of the tissues incident to pregnancy, grows and spreads with extreme luxuriance, and the cachexia increases rapidly. Some of the women die before term from exhaustion or from a septic infection from the breaking-down cancer tissue, an infection which may be the result of bruising incident to even repeated digital examination. If they abort, there is increased risk from sepsis and hemorrhage. If labour at term occurs, over 30 per cent. succumb when delivery takes place spontaneously, many of these from rupture of the uterus; while about 50 per cent. die where the aid of forceps or version or craniotomy has increased the traumatism and subsequent exhaustion, hemorrhage, sloughing, and sepsis. About 40 per cent. of the children are born dead, and nearly all are of feeble vitality. This certainly is a gloomy picture, but it is not exaggerated; and it warrants us in employing the most radical measures if by so doing we can lessen the immediate danger to the mother. A child soon to be motherless and of the most problematical vitality deserves only secondary consideration.

Treatment.—In the presence of cancer of the cervix it is usually impossible to be certain of pregnancy before the end of the third month. Here the child should be entirely ignored, for the operative indication is even more urgent than in the unimpregnated condition. While the uterus is yet small, it and the upper vagina should be removed by vaginal hysterectomy or by Werder's operation. When the conditions are favourable the vaginal operation is best. It should be begun by a circular incision of the vagina 4—6 cm. below the cervix, the vaginal walls being dissected off so as to form a cuff about the cervix, and clamp together by a stout pair of forceps, as suggested by Goffe, so as to shut off the cervix and its infectious material. The operation is then finished in the usual manner. When the disease is more advanced or the body of the uterus is larger, Werder's method is advisable. Here the ovarian and uterine arteries are tied through an abdominal incision, and the uterus freed from bladder and broad ligament without cutting through the vaginal wall. The vagina is then freed from its attachments by blunt dissection as far down as is thought advisable, and the uterus drawn down and out through the vulva by stout traction-forceps attached to the cerviv. The peritoneum is then united over the fundus, the abdominal wound closed, and the operation completed by removing the uterus after dividing the inverted vagina at the point selected. If the uterus is too large to pass easily through the vagina in this way, a supravaginal amputation should be made to lessen its bulk before the removal below of the cervix and vagina. This method is ideal, in that it avoids any contamination of the peritoneal cavity or of any cut surface by septic or cancerous matter. When the condition is discovered during the fourth or fifth month of pregnancy, immediate combined hysterectomy is still the procedure of choice. During the sixth month and later the viability of the child must be considered, and the question of waiting until this is assured comes up. When the child is viable, induced labour and hysterectomy, or Cæsarean section and removal of the uterus and vagina, should be done.

When the case is first seen at term, we may find cancer at so early a period that its diagnosis is uncertain. At this stage it does not prevent dilatation of the cervix, but predisposes to deep tears. When the disease is more advanced, but still combined to one lip, it may be scraped and cut away, and dilatation aided by multiple incisions and rupture of the membranes, so that the pressure of the head may aid in controlling the bleeding, which, however, is not usually alarming. Where the cervix is extensively involved, or where the cancerous masses are large, Cæsarean section and immediate removal of uterus and vagina is indicated. In these instances craniotomy on a living child is not justifiable, as the mother is doomed in any case, and the crushing and tearing incident to forcible delivery will probably hasten her death more than the abdominal section.

Where cancer affects the vulva, vagina, or rectum, remove the mass, if small, and deliver per vaginam; but if the disease is advanced the abdominal incision gives the best results.—*Medical News, June* 30, 1900.

132.—SARCOMA DECIDUO-CELLULARE.

By W. J. Smyly, M.D.

[From Dr. Smyly's paper on Deciduoma Malignum :]

Clinical features.—The clinical features of this disease are thus summed up by Sänger :—(1) A birth, abortion, or hydatidiform mole followed by (2) Constant or repeated hemorrhages. (3) After this, and generally following an examination or intrauterine manipulation, putrid discharges with fever. (4) Increasing size and irregular shape of the uterus. (5) Anæmia, rapidly progressing, and towards the close, intensely marked. (6) Recognisable metastases, especially in the vagina. (7) Cough, dyspnœa, bloody expectoration and other symptoms of pulmonary metastases and hæmatothorax. (8) Rapid course of the disease which usually proves fatal within six or seven months.

The first point of importance is the connection of this disease with pregnancy. In all recorded cases it has come on after an abortion, or very rarely, after delivery at term ; in about half the cases it has followed the expulsion of a hydatidiform mole, a remarkable fact of much importance with regard to its etiology. The second important point is hemorrhage, which either continues after the expulsion of the ovum or commences shortly afterwards. In the majority of cases, however, it is the most prominent symptom, so that the patient soon becomes profoundly anæmic. When the tumour sloughs, the discharge becomes offensive and septic fever sets in. It is therefore of the utmost importance to observe the strictest antiseptic precautions in dealing with these cases. On physical examination the uterus is found enlarged and often irregular in shape, and in some cases the os is sufficiently dilated to admit a finger by which the growth may then be directly felt.

The course of the disease is one of marked malignancy ; in fact it is the most rapidly fatal of all malignant uterine growths, death occurring from hemorrhage, septic infection, or pulmonary complications within a few weeks, very rarely months, after the first symptoms have been observed.

Diagnosis.—An early diagnosis is of vital importance. When hemorrhage occurs after an abortion or molar pregnancy, the uterus should always be thoroughly evacuated by the finger and curette, so that one can be certain that everything has been removed and a smooth surface left. If after this, hemorrhage recurs, and a second evacuation reveals a quantity of soft friable tissue, the case is certainly not one of simple abortion, but is, in all probability, one of deciduoma ; one must, however, be certain that the first curetting was thorough and complete. The size and shape of the uterus varies, but is never below the normal, and enlargement of the organ after discharge of the ovum is of much diagnostic value. The os is often sufficiently open to admit the finger, but may require artificial dilatation. Soft masses of friable material resembling placenta are then discovered, and portions removed by the curette should always be submitted to microscopic examination.

Treatment.—Total extirpation of the uterus is the only method of treatment which has hitherto yielded any benefit, and it is of the utmost importance that this operation should be performed at the earliest possible time, before the patient has become exhausted by hemorrhage, and before putrefaction has set in, or metastases have occurred. It must not, however, be regarded as hopeless even under such unfavourable conditions, for cases have been reported by Chrobak and v. Franke where, in spite of evidences of pulmonary embolism as shown by bloody expectoration and other symptoms, recovery has followed operation. Lönnberg-Mannheimer saw numerous metastases in the cervix, introitus vaginæ, and vagina, yet the patient had no return for eighteen months after operation ; Cazin found a metastasis in the ovary, yet three years after the operation the patient was well ; Schauta extirpated a metastatic growth from the vagina along with the uterus, but at the time of publication there had been no return.—*British Journal of Gynæcology, August,* 1900.

133.—AMENORRHŒA.

By L. H. Dunning, M.D.,

Professor of Diseases of Women, Medical College of Indiana, University of Indianapolis.

Treatment.—An efficient treatment of amenorrhœa must be based upon a correct knowledge of the lesion causing the absence of the menstrual flow. Our efforts to restore the function in Bright's disease and tuberculosis will be unavailing unless we can arrest and overcome the ravages of these diseases. Indeed, the writer would emphasise the fact that active efforts by the administration of powerful emmenagogues are harmful, for such a course is liable to result in congestion of the pelvic organs and the development of new and distressing symptoms without the hoped-for appearance of menstruation ; and, furthermore, should the flow appear, it is prone to lead to greater anæmia, a condition which the attendant physician is using his best efforts to overcome.

Amenorrhœa following acute and debilitating diseases need not as a rule occasion the serious apprehension of physician and patient. Here the chief end should be to restore the health of the patient after the intensity of the attack has passed. For the pale, anæmic, overgrown girls, the development of whose sexual organs is retarded, out-of-door sports wisely indulged in, together with the systematic administration of iron and arsenic, are generally efficient. In these cases, as the richness of the blood appears and the muscular strength develops, if the menstrual function is not established, the stimulating properties of the faradic current may be utilised. Mild emmenagogues are often beneficial. Potassium permanganate in one- or two-grain doses is quite efficient. Oftentimes a change of air, scenes, and surroundings will accomplish the greatest good. This is especially true of young women who are suffering from excessive mental work and worry. In all instances, hygienic laws must be observed.

The chlorotic patient may be expected to recover under the influence of appropriate treatment. Iron is the sovereign remedy, but it must be employed in conjunction with other measures. Food rich in blood-making properties should be directed, and a high state of activity of the digestive and assimilative functions maintained. It is highly important that the activity of the bowels should be secured. In case of constipation, aloes, when well borne, may be counted as the most efficient laxative. Scarcely less important is it that the functions of the kidneys and skin should be kept in normal condition. Tepid baths and friction of the surface of the body are beneficial, and free water-drinking between meals should be encouraged. On account of circulatory and respiratory disturbances, some chlorotic patients are unable to endure sufficient exercise. Here voluntary exercise may be supplemented by massage, Swedish movements, and surface electricity. With the disappearance of anæmia and the oncoming of good health, the menstrual function is, as a rule, established.

The treatment of amenorrhœa due to occlusion of the vaginal outlet by an imperforate hymen is obvious. Incise the hymen, empty the vaginal tube, and pack lighty with gauze. Dilate fistulous tract in case of double vagina with partial occlusion of one, and dilate a stenosed os and introduce a Wylie drainage stem pessary, endeavouring by this means to secure a permanent patulency of the cervical canal. When the amenorrhœa is due to retarded development of the sexual organs, if the patient presents herself early, before eighteen or twenty years of age, a reasonable hope may be entertained of establishing the menstrual function as a result of stimulating a growth of the reproductive organs.

[The author thinks that the local use of the faradic current and even of the stem pessary may be useful, but he mentions that in some instances it may be attended by danger to the patient.]

A happy marriage, if the woman is otherwise healthy, not infrequently results in the speedy growth of the sexual system, and occasionally in pregnancy. It must be remembered that in this class of patients the menopause is prone to appear early, and that miscarriage may occur in the first pregnancy, while a subsequent pregnancy may be followed by a perfectly normal gestation and delivery. In young women possessing highly atrophied uteri and ovaries we need not expect to see the menstrual flow appear, no matter what means are adopted. It is better to withhold all efforts in this direction. Occasionally in young women possessing well-developed ovaries and rudimentary organs developed from the ducts of Müller, life is rendered tolerable only by extirpation of the ovaries. This is a procedure the necessity of which is greatly to be deplored.—*Medical Record, July* 28, 1900.

134.—ASEPTIC MINOR GYNÆCOLOGY.

AUGUSTIN H. GOELET, M.D.,
Professor of Gynæcology in the New York School of Clinical Medicine, &c.

[From Dr. Goelet's paper :]

Necessity for washing and sterilising the hands.—The necessity for sterilising the hands before making a vaginal examination can be appreciated if the fact is recalled that infecting germs exist on the hands of every individual under ordinary conditions and even after ordinary washing. Scrubbing with a stiff brush and a reliable antiseptic liquid soap is essential. I have employed for this purpose, with much satisfaction, a liquid soap—synol. It does not roughen or injure the hands ; but, on the contrary, makes them soft. This soap should be kept in a receptacle over the basin, preferably of glass, with a contrivance that will permit the necessary amount to escape into the hands by pressing a button attached to a lever. Thus there is no chance of contamination of the whole when a small quantity is needed.

For the antiseptic irrigation of the vagina, I prefer a 1 per cent. solution of the antiseptic soap which I employ for washing the hands, and have found it most satisfactory, on account of its soapy character, in removing the secretion that sometimes adheres quite tenaciously to the vaginal walls and its folds.

Lubricant for finger and speculum.—The lubricant employed for the examining finger and instruments is most important, both from the standpoint of cleanliness and comfort of the patient, as well as for the physician. I have abandoned all forms of grease, because they adhere to the parts and are not easily removed, and because they cannot be removed from the hand without hard washing and scrubbing. The soap used for washing the hands I have found most convenient and agreeable. It is easily removed from the hand by simply placing it under a stream of water. It is removed from the vulva by wiping with a damp cloth or absorbent cotton. The same lubricant is used for the speculum. Besides being convenient, it possesses the additional advantage of being antiseptic.

Cleansing of instruments.—After instruments have been used, either for operative work or for simple examination of the female genitalia, they should be thoroughly cleansed and sterilised before being used again. They should be placed immediately in a 2 per cent. solution of the antiseptic soap, where they are allowed to remain for five minutes. They are taken out of the solution and scrubbed with a stiff brush if they have come in contact with blood or pus, particularly the parts where there are serrations and about the locks. Double-bladed instruments—such as forceps, dilators, and scissors—should be taken apart and all parts thoroughly washed. Scissors blades and scalpels are dipped into the soap full strength and wiped off thoroughly with a bit of gauze. When instruments are tarnished, they should be scrubbed with the finest grade of sapolio on a bit of gauze. When this does not brighten the surface or remove roughness, they should be repolished or replated. After the instruments have been carefully washed in this manner, they are placed in a steriliser partially filled with a 1 per cent. solution of the synol soap and are boiled for three minutes. They are then laid away in a case on glass shelves. Cutting instruments, scissors, and knives are not boiled with the other instruments, but are immersed in a boiling solution of the soap separately for two minutes. In office work, a steriliser may be kept boiling in a convenient place and the instruments may be placed in it each time after they have been used, but they should be first washed. When instruments are required for immediate use and time cannot be spared for sterilisation by boiling, they may be quickly sterilised by placing them in a pan and pouring over them a small quantity of alcohol, which is then ignited. After the alcohol has been permitted to burn for half a minute, if there is too much alcohol to burn out in that time, water is poured over them from a pitcher and the flame is extinguished.—*Journal of the American Medical Association, October* 6, 1900.

135.—RUPTURE OF THE VAGINAL WALL.

By W. Cavenagh-Mainwaring, M.B., Ch.B.,
Adelaide, S.A.

Cases of complete rupture of the vaginal wall into the peritoneal cavity are, I think, sufficiently uncommon to warrant their being reported, should they occur, so I have prepared a brief account of the following case that occurred in my practice a short time ago. The patient informed me that four days previously she had had a miscarriage at two months, which had been induced solely by the use of pink pills and aperients, no instrument of any kind being brought into requisition. Three days later she noticed an unpleasant smell about the lochia, and in addition stated that she felt as though there was some foreign body in the vagina that wanted to come away at which she became alarmed, and came to Adelaide to seek advice.

On examination, the woman complained of some slight tenderness of the abdomen in the hypogastric region. The temperature was 102°, the pulse 120, but of good volume. After satisfying myself that the uterus had not been properly emptied, I anæsthetised the patient with ether, and proceeded to curette, with all antiseptic precautions. A Sims' speculum was introduced, and the uterus drawn down with a tenaculum, without the use of any undue force. A considerable amount of broken down blood clot, with a slightly offensive odour, was removed, and after douching the uterine cavity the forefinger of my right hand was introduced to ascertain that the interior of the uterus was clear. On withdrawing the finger a soft mass was felt lying free in the vagina behind my finger, and on further examination of this to my horror it was found to consist of a loop of small intestine.

On introducing the speculum, and retracting the anterior vaginal wall, Dr. Lendon and I discovered a tear about two inches in length, situated almost at the apex of the posterior cul-de-sac, somewhat irregular in shape, and appearing to have been in existence from 24 to 48 hours. The abdominal contents were quite plainly visible through the aperture, but there was no sign of peritonitis, the coats of the intestine being not at all dull. After thorough disinfection, with Dr. Lendon's assistance, I proceeded to close the rent, which was done not without some trouble, owing to the height of the tear, with a Hagedorn's needle and silkworm gut, a plug of gauze having first been introduced into the abdominal cavity to keep away the intestines from the field of operation. It was noticed that the parts were very soft, and tore easily, whilst all the needle punctures bled very freely. Four sutures in all were inserted, and were found to bring the wound into perfect opposition. The gauze plug was removed and found to be hardly stained at all, so the sutures were tied and left long, and the wound closed entirely, no drain being left in the abdominal cavity. A vaginal plug was inserted, the whole procedure occupying about an hour.

The patient confessed that subsequently to the onset of the miscarriage a crochet needle had been used in an attempt to open up the womb, and that its use was followed by free bleeding and some severe abdominal pain, which, however, soon passed off. The subsequent history of the operation was uneventful.

What literature I have been able to study on the subject has given me very little information. I could find no reported case of rupture occurring during the progress or after treatment of an abortion, most of the cases having occurred during instrumental delivery, at full term or thereabout, or caused by foreign bodies entering the passage accidentally from without. One or two cases, however, are reported as occurring during the act of coitus, from which one may infer that the force to produce them need not be excessive. The greatest interest in the case lies in determining the actual cause of the accident. Unfortunately the true state of things was not discovered until I had performed curettage, so it seems to me there are two possible causes of the rupture. (1) It is possible that the tear occurred during the manipulations necessary for the performance of the operation, but it seems almost impossible that the mere pulling down of the uterus could be a sufficient cause, and I am certain it was not caused by the curette, as I had the os uteri under visual control the whole time, and besides, there was an absence of any considerable hemorrhage, such as I think must have occurred when the laceration took place, judging by my experience at the operation subsequently. The second possibility is that it was caused by some manipulations performed on the patient either before or after the occurrence of the miscarriage. The history of the use of the crochet needle does not present an entirely adequate cause to me, as I think it would be much more likely to produce a punctured wound than the one met with at the operation, but it does serve to accentuate the fact that the history of the patient was not a reliable one, and that not improbably the full history of the manipulations performed was withheld. The appearance of the wound at the time of operation was, I think, sufficient to negative the idea that the injury was produced before abortion took place, and it probably arose during some manipulations undertaken to assist the expulsion of the foreign body the patient felt in the vagina, and in this connection it may be stated that the sister with whom she was staying in Adelaide has rather a fancy for work of this sort, having a short time previously nearly succumbed to a sharp attack of septicæmia, following on an abortion that she had produced upon herself with the aid of a crochet needle. Be the cause, however, what it may, I think the case is worth recording, perhaps to warn the surgeon of a possible danger hitherto unsuspected during the performance of curetting, and certainly, if possible, as a warning to other women against going and doing likewise.—*The Australasian Medical Gazette, April* 20, 1900.

136.—OSTEOMALACIA.

[The following is a case of osteomalacia which showed the effect of oöphorectomy in checking the elimination of phosphates by the urine. The case was under the care of Dr. E. O. Croft, of Leeds, and the account is taken from *The Lancet*, August 25, 1900 :]

Our knowledge of the etiology of osteomalacia is so very slight that it is practically impossible to give any satisfactory explanation of the action of removal of the ovaries in improving the condition of these patients. Curato and Tarulli suggest that the internal secretion of the ovaries has the power of oxidising compounds of phosphorus, such as those which exist in bones, so that after the removal of the ovaries there is an increased deposit of calcium and magnesium phosphate in the bones, which thus become stronger. Rossner claims to have found hypertrophy of the vessel walls with extensive hyaline degeneration in the ovaries which had been removed in three cases of osteomalacia. Phosphorus and also bone-marrow have been said to produce great improvement in several cases of the disease, and it is advisable that their action should be further studied.

The patient was a married woman, aged 35 years, who had had one pregnancy, the child having been born about two-and-a-half years ago. The patient came under the care of Dr. Croft in the Hospital for Women and Children, Leeds, in April, 1899. At that time she appeared to be fairly well nourished and healthy, but was very lame and had much pain. There was tenderness over the spinal column and on the ribs, sacrum, and pelvis, but not over the long bones of the limbs. The abdomen was prominent and pendulous, but otherwise revealed nothing abnormal. The symphysis pubis was very prominent, the pubic rami receding from it to such an extent that the beak-like projection of the tubes could be grasped between the fingers. She was treated with rest, tonics, and various drugs to relieve pain, and returned home in about a month somewhat relieved. Dr. Croft saw the patient again in March, 1900. The symptoms had become much worse, and the day on which he saw her was the last occasion on which she was able to walk or stand alone. She was re-admitted to the hospital on April 23. The condition and amount of the urine were carefully noted. On May 23, a month after admission, and the patient being presumed to be in an average condition with regard to diet and so on, the urine was reported upon by the Clinical Research

Association with the following result as far as regards the amount of phosphates present:—Phosphoric acid (P_2O_5), 0·170 per cent., or 0·74375 grain per ounce; there was no albumose present; quantity of urine in 24 hours, 40 ounces; total phosphoric acid per diem, 29·74375 grains. The good effect said to be produced by oöphorectomy in osteomalacia is stated to be brought about by its causing in some manner a reduction in the elimination of phosphates by the kidneys. Curatulo and Tarulli (Rome, 1896) experimented on this subject by removing the ovaries of bitches while under average conditions of diet and excretion, the urine being carefully examined at intervals. After oöphorectomy the amount of phosphates (as P_2O_5) in the urine was greatly and permanently diminished. The result of observation in the present case, although only imperfectly carried out, is in accordance, so far, with these experiments.

On May 28 Dr. Croft performed double oöphorectomy. The operation was simple. At the time the condition of the pelvis could be thoroughly examined. In addition to the rostration of the pubes and the approximation of the ileo-pectineal eminences the depression of the sacral promontory and its inclination towards the left side were observed. Recovery was aseptic and normal, the wound being dressed and sutures removed on the tenth day, healing being perfect. During the four weeks after the operation the patient gradually improved. The pain became less, so that no opiates were required, and she became able to move about more easily and with much less pain. Standing was difficult and painful. On June 27, one month after the operation, and the patient having resumed conditions of diet as before, an average sample of the urine was examined with the following result:—Phosphoric acid (P_2O_5), 0·08 per cent., or 0·35 grain per ounce; quantity of urine passed in the 24 hours, 55 ounces; total phosphoric acid per diem, 19·25 grains. Comparing this with the amount passed before the operation, a diminution is shown in round numbers of from 30 to 20 grains of phosphoric acid per diem.

Remarks by Dr. Croft.—Osteomalacia being a very rare disease in this country, the above case is, I think, worthy of record, especially as a somewhat rough observation has been made on the effect of oöphorectomy in checking the progress of the disease by causing a diminution in the amount of phosphates eliminated by the kidneys. This observation is, of course, very imperfect, and would be of greater value if more repeated analyses could have been made, but it is of interest as far as it goes, and I shall endeavour to trace the further progress of the case with a view to ascertain the ultimate effect of the treatment on the progress of the disease.

137.—ABDOMINAL HYSTERECTOMY FOR FIBROIDS OF THE UTERUS, WITH RETRO-PERITONEAL TREATMENT OF THE STUMP.

By W. C. Swayne, M.D. Lond.,
Obstetric Physician to the Bristol Royal Infirmary, &c.

[The notes of two cases have had to be omitted here :]

The treatment of uterine fibroids has given rise to considerable divergence of opinion; on the one side we find those who declare that they are innocuous and should be left alone, and on the other those who are of opinion that they should be removed whenever found to be present. Both views are erroneous, but between these two extremes there is a possibility of arriving at a correct conclusion as to the general grounds on which treatment should be based. To take the first contention, that fibroids are innocuous. A short time since a well-known authority asked whether anyone could honestly say that death had ever been caused by a fibroid tumour of the uterus, and added that he could not remember such a case. In a necessarily more limited experience, I am able to state that I know of cases in which death has occurred from conditions brought about by fibroid tumours: in one death occurred from intestinal obstruction; in another from hemorrhage; in another from rupture of the uterus in parturition; and in two cases from malignant disease occurring either as malignant degeneration of a fibroid, or as malignant disease of the uterus already affected with a fibroid tumour. To take the other view. Every obstetrician of any experience has had under his care numerous cases where even large tumours failed to produce any symptoms of importance beyond those due simply to the bulk of the tumour; I myself have now under my care several such cases.

We may, therefore, adopt an opinion midway between the extremes before mentioned, and state that though fibroid tumours of the uterus are often innocuous, conditions may be present which call for operative interference, and these may be briefly stated as follows:—Operative interference should be advised (1) if severe hemorrhage is present; (2) if pressure symptoms are present; (3) if in pregnancy the situation of the tumour is such that obstructed labour will result; (4) if severe pain and physical disability arise in working women to such an extent as to incapacitate them; (5) if after the menopause hemorrhage recurs; (6) if the tumour commences to increase with great rapidity, especially after the menopause; (7) if symptoms of twisting of the pedicle, when one is present, should show themselves.

The operative procedures for the relief of the patient are many ; and here again we cannot commit ourselves to any one method without the danger of occasionally omitting to meet the best interests of the patient. The tumour or tumours may be dealt with by (1) myomectomy, either per vaginam or abdomen ; (2) enucleation through the cervix and vagina ; (3) removal of the uterus per vaginam ; (4) removal of the uterus per abdomen ; (5) partial removal of the uterus per abdomen, with retro-peritoneal treatment of the stump ; (6) with extra-peritoneal treatment of the stump ; or (7) indirectly by oöphorectomy. Myomectomy is in a suitable case, *i.e.*, a well defined pedunculated or sessile tumour, a sound proceeding ; it is truly conservative, and in many cases has enabled the patient to pass successfully through pregnancy and parturition. It is, however, not devoid of risk, and is quite unsuited for large growths, or those in which uniform enlargement of the corpus uteri is present. Enucleation after dilating the cervix is most dangerous, and should not be attempted in nulliparæ with narrow vagina, pedunculated tumours excepted. Removal of the uterus per vaginam is fairly satisfactory when the tumour is not large and the vagina capacious ; it may be performed by morcellation, or in the same way as for malignant disease, but if adhesions be present may be very difficult and risky. Complete removal per abdomen (panhysterectomy) is not difficult, and if injury to the ureters can be avoided is fairly safe, especially if the combined method is used. Partial removal, with retro-peritoneal treatment of the stump, is a satisfactory operation, but has a higher mortality at present than the extra-peritoneal method of treatment of the stump ; this may be corrected as the operation becomes more general.

The two cases reported were treated by partial hysterectomy, with retro-peritoneal treatment of the stump, and in both the same technique was applied. Special points in the technique followed were : First, the formation of long peritoneal flaps, so as to ensure the covering of all raw surfaces, and the inclusion of the stumps of the ovarian vessels in peritoneum by raising folds from the anterior and posterior surfaces of the broad ligament ; secondly, the ligature of the uterine arteries in continuity without involving peritoneum in the ligatures ; thirdly, wedge-shaped amputation through the cervix and the closure of the V-shaped flaps by deep continuous catgut sutures ; fourthly, the burying of the ovarian stumps within the sutured peritoneal flaps, and the closure of the abdominal wound without drainage, which, if considered necessary, should be made by incising the vaginal vault outside the peritoneum and the use of a gauze drain into the vagina.—*Bristol Medico-Chirurgical Journal*, *June*, 1900.

Notes on New Preparations.

MESSRS. BURROUGHS WELLCOME AND CO.—We have received from this firm samples of the following New "Tabloid" and other Brand Products. We would specially draw attention to the excellent "Enule" Suppositories introduced. They are undoubtedly very superior to the Suppositories in ordinary use. Messrs. Burroughs Wellcome and Co. send the following notes :—

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SUNAT	,,	ANTI-TETANUS SERUM.

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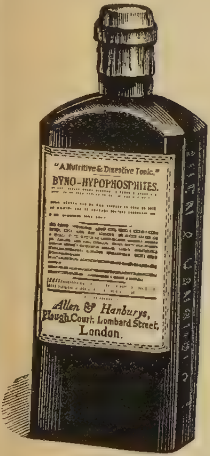
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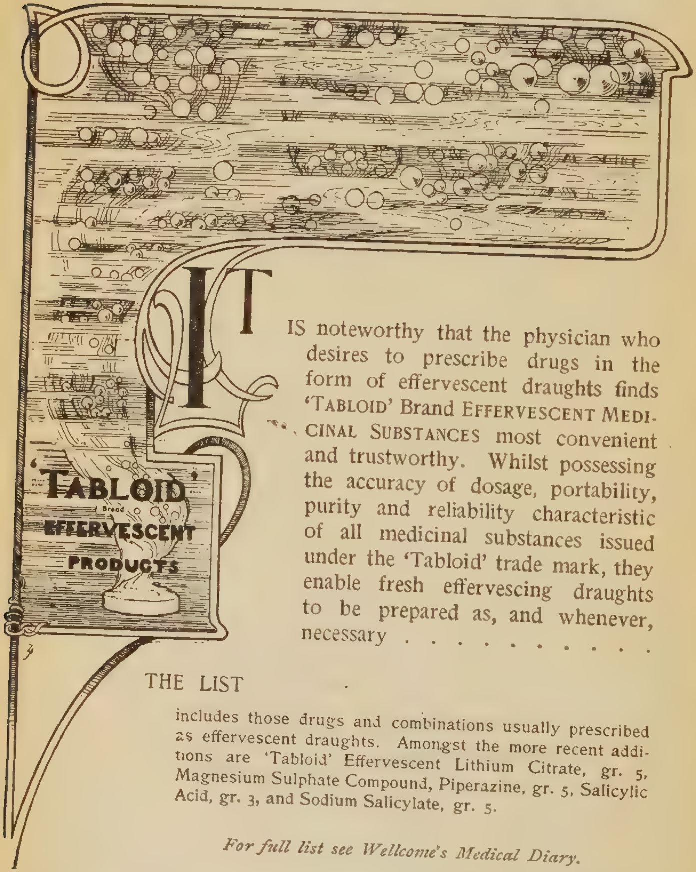

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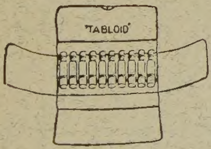

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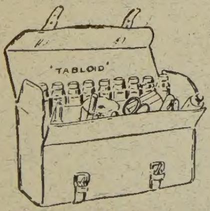

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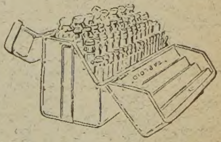

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